PYRAMID R-1680/50¢

THEY HAD TO CHANGE THE PAST – OR
TODAY'S WORLD WOULD FLAME WITH HORROR!

TIME TUNNEL ADVENTURE #2

TIMESLIP!

MURRAY LEINSTER

TIME BOMB

The experimental nuclear missile was sent through the Time Tunnel—but something went wrong, and it wound up buried in the capital of a great nation, over a century ago! Now, excavation equipment was moving toward the site—any day a bulldozer blade might set it off, destroying a mighty city and plunging the world into war!

Time travelers Tony Newman and Doug Phillips had only one chance to head off disaster—to go through the Time Tunnel and make the accident "unhappen." The trouble was, there was a war on in the past—and the bomb was in enemy territory …

See THE TIME TUNNEL
—now an exciting ABC-TV series
produced by Irwin Allen and
starring James Darren and Robert Colbert.

AMBUSH IN 1847

The guerrillas fired from the roadside at the three American officers—one fell dead, but return fire drove the ambushers off.

A simple incident of the Mexican War? Not quite. For two of the "officers" were Sam Creighton and Tony Newman, scientists from the future—late in the 20th century—on a desperate mission to save the peace of their own world. And the third man, now dead of an ambusher's bullet … was Sam Creighton's great-grandfather! That was horror enough—but the one thing Sam knew about his ancestor was his heroic death in Mexico—a full month after the ambush!

Had Tony and Sam's intervention changed history? … and would their own time be the same when they returned … or would they be *able* to return?

Timeslip!

A Time Tunnel Adventure by

MURRAY LEINSTER

PYRAMID BOOKS • NEW YORK

TIMESLIP!
A PYRAMID BOOK
First printing July, 1967

© Copyright 1967 by Kent Productions, Inc., and Twentieth Century-Fox Television, Inc.
All Rights Reserved

Printed in the United States of America

PYRAMID BOOKS are published by Pyramid Publications, Inc.,
444 Madison Avenue, New York, New York 10022, U.S.A.

TIME TUNNEL ADVENTURE #2

TIMESLIP!

1

TONY NEWMAN went into the Time Tunnel chamber of Project Tic-Toc wearing a wry expression. He faced the fact that what had been the most important thing in his life was now about to pass into other hands. He had companions in this experience, who felt about it just as he did. Doug Phillips was already in the chamber, fuming a little. Kirk was in there, too. He'd put aside his dignity as a retired general officer in the Air Force, and now gloomily hung up bed sheets from the project laundry to make screens to hide everything in the chamber. He'd already walled off a good half of the oversized room to which, until now, only very, very, very few people had ever been admitted. Tech Sergeant Christopher, his hornrimmed spectacles gleaming from time to time, tried manfully to help. The purpose was, obviously, to get the Time Tunnel and all its accessories out of sight in preparation for the unprecedented entry of people with only ultra-top-secret clearances. They were to be in this room only briefly, and only to deliver something considered nearly as secret as the Tunnel itself. But the concealment of the Tunnel and all associated devices was necessary. MacGregor—Doctor Ann MacGregor, Ph.D.—sat at the Tunnel control desk, watching with disapproval. She didn't like the way things were going.

Tony closed the door behind him and said, "There's word from outside. A general named Osborne is on the way to run the Army test. Sam Creighton's nurse-maiding him to here. Sam's also bringing some special stuff and a brilliant idea with him. Or so he says."

Doug Phillips said sourly, "No extra witnesses, I hope!"

"He didn't mention any," said Tony. He looked over the task in hand. It looked very foolish and disorganized. But this whole project was highly abnormal. Ordinarily no one would have considered it anything but the height of folly. In theory it was quite impossible, and as Project Tic-Toc it had been built without proper authority. But certain persons in very high places had connived at it, and the money for it had been detached from funds supposed to be used for other things entirely.

The Tunnel chamber looked very strange with the Tunnel itself now hidden by bed sheets. The chamber had been carved from the living rock some fifteen hundred feet under totally desert, uninhabitable wasteland on which only occasional prickly-pear clumps and water-starved sagebrush grew. The workmen who'd built it suspected that

they were making an especially secret silo for an especially secret intercontinental ballistic missile. They were entirely mistaken. Not one of them guessed what they were building, later could only surmise what they'd built, and had but the vaguest of ideas where it was. Certainly none of them had been in the Tunnel chamber after the Tunnel was assembled.

Tony got out of the way of the reedy young tech sergeant so he could drape a sheet over one of the television screens set in the wall. Tech Sergeant Christopher was in military uniform, but nothing could make him look like a soldier. He wore hornrimmed spectacles, was an M.A. and Ph.D. and other admirable things, and even in a tech sergeant's uniform he looked scholarly. He'd been so wrapped up in the more abstruse aspects of physics that he hadn't pointed out his special qualifications when he was drafted. But somehow, by one of those miracles which happen even in military affairs, he'd been assigned to duties which fitted him exactly, and they had ultimately brought him here.

Tony said, "Are all the drones pulled back?"

Christopher pointed to a crate against the wall. It contained, apparently, a number of disassembled buzzards. There were wings, very deceptive. There were bodies which had to be examined very closely before the tiny lenses implanted in their breasts would be noticed. Each of them wore a filmy harness almost concealed by artificial feathers. There were small and complicated antennas mingled with their tail-plumage. When they were put together and soaring aloft, nobody would look at them twice. They'd be able to see a great many things that only a buzzard would be allowed to look at.

"Help us get things covered up, Tony," commanded Kirk. "The missile crew is supposed to leave the Project today, after leaving their toy with us. They're waiting to deliver it now."

MacGregor said with asperity, "There's need to hurry. The military sit around and do absolutely nothing for days on end. Then they get excited and want everything done yesterday!"

"Which," observed Tony, "we're more likely to accomplish than anybody else. I admire us very much, Ann. We devise the undevisable, we construct the unconstructable. We finagle the unfinaglable, and then we politely invite the defense forces to take over what we've made for them. And all the while we're criminals!"

MacGregor sniffed. The Time Tunnel was preposterous, and to build it had required much devious scheming. But that was for utterly necessary secrecy. High authority backed it. Now Doug said irritably, "Help me get this traveller covered up, Tony!"

The traveller was a platform some four feet by six, with a pipe rail

about it as if to keep things from falling off. It had many unintelligible oddments attached here and there. Tony took one end of the sheet Doug thrust on him and then helped, not too deftly, to tuck it down the traveller's sides in an absurd similitude of making a bed.

Doug said, still fuming, "The missile crew will roll it in here and then clear out. We'll get it in the Tunnel, set everything up, and then clear out. Then somebody'll use it to transport the missile Out Yonder, so many years ago and ten thousand miles away, to a place nobody then alive has ever seen. And then they'll bring it back to the present at the prearranged spot, and bow to themselves in suitable mirrors and settle down to gloat over that we've given them. And we, as civilians, will then be supposed to forget the whole thing!"

"But," said Tony mildly, "we knew from the very beginning that that was the logical ending!"

"Admitted," growled Doug. Then he grumbled, "Ann's indignant. She can handle the controls like nobody else. She wants to do it in this test. She's right. She should. But somebody else will be given the job. Probably Christopher, here."

Kirk was pinning white sheets together, draped over the fifteen-foot mouth of the Tunnel. Normally he had an air of great dignity. Now he looked like a housewife hanging out the wash. The whole far end of the chamber was walled off by pinned-together sheets. Nobody coming in the chamber could tell where it ended or if it ended at all.

"The machine tools have to be covered too," Doug pointed out.

Tony went to work. It was the quaintest of all the labors they had undertaken. The Time Tunnel under its cover looked like a gigantic, unskilfully wrapped Christmas package without the red ribbon. Doug and Kirk and Tony, with Sam Creighton and MacGregor for helpers, had gotten it built. They would receive no pay but the satisfaction of having done it, and they might get in trouble because of it. The hanging up of sheets was an actually sane action under the circumstances.

The Time Tunnel must never be known to exist. Some defense projects can be revealed. Some are more or less secret. But some are secret on a very high level indeed. In World War Two the British had radars long before the Germans imagined such a device. So German bombers crossed the Channel at reasonably high altitudes, the radars spotted them, and the RAF was waiting for them when they arrived. If the Luftwaffe had imagined radars earlier, they'd have flown at wave-top height, avoided the scanning-beams, and the Second World War might have ended differently.

The Time Tunnel, though, was much more secret than that. Not only its existence, put public knowledge of anything it ever did would

be a military catastrophe of the first order. And therefore, when strange personnel had to be admitted to the Tunnel chamber, everything in that huge room had to be hidden so no imaginable guess could be made about it.

The elaborate activity went on. Presently Tech Sergeant Christopher looked anxiously about. MacGregor sat firmly in her chair at the control desk. Doug approached with a final sheet with which to cover it. She stood up very reluctantly. The control desk had been her place since the first attempts to make the Tunnel actually operate. Only Sam Creighton approached her skill with the controls. She hated to think of giving over her task.

"I think we're ready." said Christopher dubiously. "Everybody check, will you?"

They looked. Carefully. They looked again. They examined everything for a third time. Then Tech Sergeant Christopher went to the wall telephone and made a call. He hung up and looked all around the chamber one more time.

"I suppose it's all right," he said uneasily. "But we want to be sure nobody bumps into a sheet and pulls it down."

"We will try," said Kirk ironically, "to see that proper security precautions are taken."

There were times when Kirk remembered that he'd been a high-ranking Air Force general before he retired to join the officially unauthorized but utterly necessary Project Tic-Toc. He'd been a man who gave orders to enlisted men like Tech Sergeant Christopher. Sometimes, when irritated, he remembered it.

"As I understand it, Sergeant," he said sardonically, "the missile crew is going to get their toy into this room and then go away. Then we're to wrestle it into the Tunnel and put the time-harness on it, and then we go away too. Then everything waits for this General—General —"

"Osborne, sir," said Christopher.

"Right. General Osborne. And when he gets here the Tunnel will have been left to darkness and to you. And him."

"Yes, sir," said Christopher appreciatively. "To darkness and to me. That's perfect, sir! That's what I believe the program is."

"Aren't we even allowed," asked Kirk formidably, "to know to what place and time this missile is to be transported? Or are we to remain innocent of that information?"

"Oh, no, sir!" said Christopher, perturbed. "I'm sure the target area and intermediate time-period can be told you. I'll ask—"

"I know what it is," said Kirk coldly. "The place is MacMurdo

Sound, in Antarctica. We've a Deepfreeze station there. The time is 1847, more or less—about the time of the Mexican War. I also know that the Time Tunnel is not a time-travel machine but a temporal transportation unit. I'm even aware that Tony Newman and Doug Phillips have been transported through the Tunnel to other times and places and have been brought back alive. You might be surprised at how much I know! That's why I'm not pleased at being excluded from the first simulation of a detour bombing!"

Tech Sergeant Christopher looked very unhappy and disapproved of. Then a buzzer sounded. A voice from the speaker near the door said, *"Object for delivery to Compartment 342."*

Kirk had just complained about excessive secrecy, but he looked at a small closed-circuit TV set. He beckoned to Christopher.

"You know these characters?"

"Yes, sir," said Christopher, after careful examination. "This is the missile crew. Every one."

"Then let them in," said Kirk.

Tony casually put his hand in his coat pocket. He saw that Kirk and Doug had done the same thing. This was the Tunnel chamber, the most hush-hush part of Project Tic-Toc, as that was the most hush-hush of all classified projects. Not more than twenty men in the world were supposed to know that it existed and what it existed for. So it was absurd to grip a revolver to have it ready if somebody unauthorized should try to find out things he mustn't. But it was a habit, justified by the fact that the leakage of the facts about the Tunnel would be much worse than the leakage of the secret of the atomic bomb.

The thick, armored matériel doors of the chamber opened slowly. Outside, a large draped object waited on twin electric dollies. It was shrouded and featureless. It was more than a yard in diameter. It was a good many yards long. The drapery that concealed it trailed on the door, and the existence of the dollies was shown only by the cables coming out from underneath to end in control boxes carried by men of the missile crew.

"All right, men," said Tech Sergeant Christopher, anxiously. "Roll it in slowly! Be careful not to bump anything!"

The dollies rolled the giant, covered object very carefully toward the door and into it. It was pointed. That was all that could be observed. It moved with enormous deliberation into the chamber. Two men controlled it. The others plucked at its draped cover so the dolly-wheels wouldn't catch.

"That'll do," said Christopher, briskly. "I'll give you a receipt."

He verified that it was the expected object. He wrote a receipt. The six men of the missile crew did not look around. They kept their eyes under control. When a man is involved with classified material he learns to avoid information unless it bears on his assignment.

Tony watched as the missile crewman read the receipt, carefully. As the crew filed out of the chamber. As the doors closed. The delivery of the missile was accomplished. It seemed that it was a very ordinary affair. But it wasn't. Wotan missiles were the latest and most sophisticated weapons in the American armory. They were the next most hush-hush items after the Tunnel. When responsibility for one of them was transferred, it was no light matter. Tech Sergeant Christopher had just become responsible. He was a trifle pale. Tony felt sorry for him.

"Now," said Doug, "we take down the decorations again, we get this thing in the Tunnel for you and General Osborne, and you'll transport it to MacMurdo Sound."

He began to rip down the pinned-together sheets they'd hung up only minutes ago. Really significant achievements call for some suppressions of a sense of humor from time to time. This one had dealt in much bed linen. But it was a wholly reasonable precaution, considering what was on the way to be done.

Christopher pulled the cover off the missile. It was a Wotan; never photographed and never described. It was long and sleek and somehow it looked deadly. There were rocket-engines and small radio antennas, curiously heavy in construction.

The four men began to get the missile into the Tunnel. It required much jacking-up, and much inching motion and more jacking-ups, and more leverings. It was slow. It was laborious. It was exhausting. But there was more.

The time harness had to be put on the Wotan. The Time Tunnel acted only upon time harnesses. The harness was a flexible metallic net with feedback units and television cameras to be attached. When it was in place, the harness allowed the Tunnel force fields to move it in space and time. This missile was to be transported to the other end of the world by an abnormal route and means—the Tunnel.

Before they were ready for an Army test, mice and rabbits had been transported out of the Tunnel to Out Yonder and back into the Tunnel. They wore miniature harnesses. The Wotan wore a large one. That was the significant difference. But not only small living creatures had been transported out of their proper place and time by the Tunnel. Tony himself had gone Out Yonder and found himself some thousand-odd miles away and three-quarters of a century out of his normal time. There'd been trouble getting him back, and Doug had risked

joining him, to help. But all that was over, now. The Tunnel was ready to be parted with. They now prepared to part with it. Reluctantly, and perhaps wistfully, they labored to be separated from something they believed infinitely important. Everybody but the tech sergeant felt the relieved regret that comes of a long and difficult job finally completed.

Tony'd gotten trays of food and they'd reached the coffee stage of their meal. The missile loomed large behind them and in their minds as well. Doug abstractedly consumed his dessert. MacGregor watched his face. When the Project was handed over to the only people who should really handle it, Doug would have to look for another career. MacGregor would share it with him. She looked prim. Technical Sergeant Christopher looked awed by the responsibility he bore.

"I wish," said Doug irritably, "that another kind of test had been chosen, instead of simulated detour bombing. The Tunnel can be used for time travel, but that isn't its purpose. And it can be used to blow up things in the teeth of any possible defense, but that's not its purpose, either!"

Tony said, "Still, the planned one is the surest kind of demonstration. Anybody can understand it. Look! There's the missile in the Tunnel. It's to be delivered nearly twelve thousand miles away. With satellites and radar and such things in operation, no ballistic missile could get that far any more. It would be detected by everybody interested. It'd be shot at—it'd be shot down just for safety's sake! But it's going Out Yonder, which is a sort of detour."

"You don't say!" said Kirk, with irony.

Tony waved his hand.

"We point out the detour angle, which anybody can grasp. Nothing can travel in space without travelling in time, in the sense that everything which travels gets where its going after the time when it started. But it follows that a thing can travel in time if it also travels in space in a certain fashion. So we've built the Tunnel to transport things both in time and space, in a detour in time around the middle distances. Anybody can see that, and that it makes sense!"

"Amazing!" said Kirk sarcastically. "How clever can you get?"

Tony waved both hands.

"We move the missile back in time and space, and in that past time we move it to where it's to go. Then we move it forward in time and space, when it gets back to today and now it's not here. It arrives at what the Army will call the target area. The missile has gone from here to there, having detoured back a century or two in time. And in that detour—in that past time—nobody can detect it. They can't even think of it, much less shoot it down. So it isn't a time machine but a

transportation system which happens to operate in past time periods. This is what we want to demonstrate. Anybody can understand it. I should think it would particularly appeal to a military sort of mind."

"I still think," said Doug irritably, "that I'd like a different kind of demonstration. For example, communication."

Kirk spoke without irony this time, "No. Tony's right. For the Tunnel to mean anything, we have to prove its value to people less imaginative than ourselves. We have to make a demonstration that fits the way they think. I believe this will do it."

Tech Sergeant Christopher said tentatively, "I've only been briefed on what it does. Now you're talking about the effect of what it does on General Osborne. Aren't you? There's one objection he's sure to think of, though I suppose you've thought of it and found an answer …"

MacGregor said precisely, "You are about to raise the Objection of the Run-Over Grandfather. If somebody goes back in time and runs over a child who was to be his grandfather, it seems that he shouldn't be born, because his grandfather didn't grow up to marry, so the man from the future wouldn't be born, or his father before him. But if he isn't born he can't have run over his grandfather, so he will be born to run over his grandfather. So he won't, so he will, so he will and he won't, and this goes on forever."

Tech Sergeant Christopher looked at her admiringly through his hornrimmed spectacles.

"That's just it," he said respectfully. "You've thought of it?"

"We've tried it," said Tony.

Christopher stared at him.

"What'd you do?"

"We tried it with eggs," said Tony gravely. "We took a chicken egg and sent it back in time to be hatched by a duck who had hatched its grandmother. We took away the grandmother egg, and didn't let it hatch. There we had the situation that if the grandmother egg didn't hatch, it couldn't have a daughter egg or a granddaughter egg. Se there couldn't be a granddaughter egg to be sent back in time, so the grandmother wouldn't be taken from the duck, so the grandmother would hatch and in time lay a daughter egg, with a granddaughter egg to follow, so the granddaughter egg would be laid and sent back to substitute for its grandmother, when it couldn't be laid, when it could. It wouldn't and couldn't and it would and it could. It was a very interesting experiment."

"But what happened?" demanded Christopher. "How did it end?"

"The results weren't conclusive," said Tony. "There must have been some mix-up in the experimental environment. When it hatched, it

was a duckling."

Christopher blinked. Nobody else seemed amused. A loud speaker said curtly, *"Calling Doctor Phillips! General Osborne and Mr. Creighton have arrived!"*

Doug got up and went to the wall telephone. He talked briefly and came back to the table, on which their various meal trays now rested. His expression was enigmatic.

"The Army's here and we turn over everything to him—General Osborne. Everything. He made it clear that the Army does not officially accept the Tunnel. It simply finds out what we are driving at. We've spent a lot of money that wasn't officially appropriated, so technically we are all criminals. But the Army will test the Tunnel nevertheless, using the Wotan missile we just manhandled for the purpose. That's because if anything goes wrong it can be sent aloft or detonated and nothing can be proved on anybody but us. But there's still nothing official until or unless he makes his report. We seem to have the standing, in his eyes, of people strongly suspected of felony but not quite yet indicted."

MacGregor said icily, "I think that this is ridiculous!"

Nobody else said anything. But Kirk got up, rather stiffly, and Tech Sergeant Christopher stood up, and then Tony drank the last of his coffee and rose.

"We who are about to become famous criminals, or else have our years of work kept secret forever." Tony grimaced. "We who now face the moment of truth. Let's go!"

2

WHEN THE Time Tunnel was turned on, the heavy copper busbars glowed with a flickering bluish light. The web of steel and seeming gold had a peculiar perspective effect, anyhow, and when the lambent bluish light appeared, Tony found that it hurt his eyes to look into it. But he had much more than stinging eyes to bother him now.

They were back in the Tunnel chamber after meeting General Osborne. There were Tony and Doug and Kirk of the chamber's proper compliment. Sam Creighton was seeing to the General's luggage. There was Tech Sergeant Christopher, now seated at the control desk. MacGregor regarded him with something like jealousy. He'd taken her place. The others, too, felt a certain parental solicitude for the Tunnel, now that it was to be tested by an outsider. Kirk frowned when the disassembled buzzards were pointed out and their function explained. Doug fumed about the whole business because it had been a private enterprise and he was concerned that it might not be used at its best by anybody but its builders.

The present planned demonstration would prove it an absolute weapon whose owner—the United States—could absolutely enforce peace on Earth, though good will among men might be a different matter. Still, with the Tunnel it would be possible to remove, peacefully, every atomic warhead any other nation possessed, from any conceivable, however guarded place. It would be possible, gently, to remove any prospective dictator from among his adherents. It would be simple to prevent very many disasters of very many kinds, and it might actually bring about a state of things in which the affairs of the world were conducted for the benefit of the human race.

It was for this that they'd built it, but its ability to destroy had to be proved before its more important abilities would be considered.

This ironic state of things was in all their minds, and it was depressing to feel that they were divorcing themselves from a very splendid accomplishment and leaving it to people who might mishandle it. Tony felt as if he were losing a part of himself.

General Osborne, though, was tactful if reserved. He was polite. He listened impassively to briefing and explanations, he listened to suggestions, and he even listened to argument and more or less authoritative statements of what he ought to do. He got much advice from everyone but Tony, now that the nearly emptied Project had had been placed under his control. But the change-over was not made

without confusion.

There was the matter of the buzzards. Kirk picked up a body, fitted the wings to it, and began to explain their remarkable usefulness as military devices. A buzzard, of course, is the least regarded of all flying things. It lives on carrion. It smells of its diet. It is revolting to look at, and it defends its gargoyle-like young with means not nicely repeatable. The defensive spraying of a skunk is gentlemanly behavior by comparison. The net result, of course, is that nobody looks at a buzzard. Kirk pointed out how important this was. The artificial buzzard he'd assembled did not smell badly. It was mostly plastic and metal. Its behavior was impeccable, because it was not alive. But when assembled it was motionless and it did look like a stuffed buzzard instead of a live one. General Osborne seemed to consider this a defect.

"But we can send it Out Yonder," protested Kirk, "and you'll see what it can do! Nobody will look at it, and it can look at anything!"

General Osborne nodded.

"Very well," he said. "I'll try that. But as I understand the matter, it has to go out of the Tunnel, yonder, which right now is filled up with the—hm—missile brought here for a test. We'll have to check out the buzzards later."

"No!" said Kirk vehemently. "The missile has a harness, but it's not turned on. The Tunnel force fields don't transport anything that doesn't have a turned-on harness! All we have to do is turn on the buzzard's harness, put it in the Tunnel, and send it out. The missile won't be affected, and you'll see what a buzzard can do! It'll be good experience. Necessary experience! First the buzzard and then the Wotan. Then!"

General Osborne continued to be impassive.

"If it wouldn't make a delay—" he began.

Kirk turned the tiny switch which activated the time harness. Tony and Doug had worn larger harnesses in their hair-raising journey to Out Yonder and back. The missile, of course, wore a larger harness still, with larger feedback units to report what it encountered. But Kirk held out the object which looked like a buzzard and was actually a drone.

"Here! It's ready!"

"I bow to your experience," said the General with some dryness. "I naturally want to learn all I can, but—"

Kirk turned not to Tech Sergeant Christopher at the control desk but to MacGregor.

"Take the tuning number, Ann," he commanded, "and tune a field

to it while I put it in the Tunnel."

General Osborne had been the very picture of detachment, but the builders of the Tunnel were ignoring the fact that he had orders to take over the Tunnel operations himself. He said with less courtesy and more authority, "If this is for experience, I'd rather we let the sergeant have it!"

Tony watched. He was uncomfortable. Like the others, he felt that his purpose in life was being amputated. The building of the underground installation, the scheming, the desperate contrivings to meet this emergency and that to construct the Tunnel they believed as important as the discovery of fire and the wheel—these things had filled his whole life for a long time. He knew that now he had to find something else to work at. But the others weren't reconciled to that fact.

The buzzer made a noise. Sam Creighton showed in the small closed-circuit sentry screen. He was admitted and came to Tony's side, beaming.

"I put over a prize idea in Washington," he said in a low tone. "It's a beautiful thing, Tony! I brought the stuff that's needed to work it, too!"

Tony nodded. He liked Sam Creighton, but right now he was disturbed by the others' reluctance to separate themselves from Project Tic-Toc. Doug would feel lost with no important work to do. Kirk would have no job which warranted such labor as he'd been performing. MacGregor would be best off. She'd have Doug. But Tony suddenly felt very lonely.

"Did you notice the time period the test's to be made in?" asked Sam, zestfully. "My work, that choice! The eighteen-forties! I've a persuasive way about me, Tony! Especially with generals who knew my father. A deputy joint chief of staff talked sentimentally about him and deplored that I hadn't followed the family tradition and made the Army my life. So I put over the time period that—"

"Hold it!" said Tony abruptly.

There was an argument beginning. Sergeant Christopher was very unhappy. Kirk and MacGregor were giving him contradictory instructions about the settings to be made on the control desk. General Osborne was becoming annoyed. Sam Creighton listened for moments only and then moved easily into the discussion. Tony saw him make a comment that soothed both Kirk and MacGregor, and then he made a proposal, and there was easy talk instead of acrimony. Then he came back.

"I fixed that, too. The eighteen-forties again," he said in bland self-approval. "Vera Cruz. March of 1847! Convincing proof that the

Tunnel works! I've reason to know that the General is as skeptical as they come. He thinks an investigation of a nothing has been fobbed off on him. Now he'll find out it hasn't. Things are working together beautifully!"

MacGregor nodded approval of what Kirk had done in assembling a buzzard. Now Kirk made his way into the Tunnel, so largely occupied by the sleek Wotan missile. He carried the drone—the seeming buzzard. He turned to come back, steadying himself by the missile.

"Ready to go," he said.

MacGregor corrected him.

"Just a moment! You want the camera turned on and the feedback beam locked on the controls!"

Kirk turned back to throw a switch. MacGregor bent over the control desk. She pointed out and then flipped certain switches there instead of letting the tech sergeant do so.

One of the large television screens on the wall glowed, momentarily made an erratic pattern, and then with the seeming of an inaudible "click!" presented an image. But it was of the singularly curved beams and busbars of the Tunnel. That was what the tiny lens in the buzzard's breast feathers saw. The drone's miniature iconoscope would report anything in its field of view, useful or otherwise.

"There!" said MacGregor severely. "Now it's all right! Now you can send it Out Yonder!"

The tech sergeant looked uncertainly at the General, who was plainly having some trouble controlling impatience. The General said shortly, "Go ahead, Sergeant!"

Then the hornrim-spectacled sergeant pushed the proper button, with MacGregor watching sharply.

There was an instant's delay. Then a monstrous crashing sound. It had the quality of thunder. There was a humming murmur, as of enormous power rushing somewhere to do its work. The steel and copper beams began to glow with a soft, bluish light. It was not a glare, but it hurt one's eyes to look at the Tunnel. The buzzard-drone vanished like a blown-out candle flame. The Wotan missile was undisturbed.

Tech Sergeant Christopher clutched at his stomach. General Osborne wavered momentarily on his feet. Tony was reminded of his own first experience with the Tunnel, when it began to be operable and operated. There was a moment of dizziness and acute discomfort when it was turned on. But one got used to it, and even as a first experience it did not last long. The low-toned, resonant humming which was the Tunnel at work went on steadily. Tony said

reassuringly, “You feel queer. It’ll stop in a minute. Presently it won’t bother you at all. I don’t even notice it any more!”

The tech sergeant swallowed. Then something drew his eyes to the lighted television screen. He caught his breath and his mouth dropped open. General Osborne saw his expression and swung to see what caused it.

The television image now showed a new image in full color. The bars and beams of the Tunnel’s framework were no longer on the screen. This was a landscape as seen from probably two thousand feet of altitude. It wavered very slightly. At the bottom of the screen there were trees such as grow only in the tropics. The ground sloped and rolled away almost to the middle of the screen. But solid ground ended there. Beyond there was ocean, blue as the bluest of sapphires and going on out to the world’s edge. General Osborne stared at the screen and came to the obvious conclusion.

“I take it,” he said with something less than enthusiasm, “that this is a film record of some sort. If so, it is very interesting, but—”

Sam said amiably, “Head for the coastline, Ann! There should be something special there if your calibration’s good!”

MacGregor bent over Tech Sergeant Christopher again. He was helplessly caged in her chair at the control desk. She turned knobs with a fine deftness while he tried to make room for her movements. The landscape flowed toward the television camera in the buzzard-drone’s breast.

“This is not film or tape,” she said firmly. “This is a live, transmitted, not-recorded picture of what the drone is seeing at this exact moment—no. Not at this moment, of course. It’s reporting a live picture of what the drone is seeing in the period of past time to which it has been transported. By the dial setting, the time should be well over a century ago. The drone—the buzzard—has been moved that far back in time, and it is transmitting to us who are in the future What it sees happening a hundred-odd years since.”

Bent over and crowding the sergeant, she turned knobs again. The camera swung and swayed, and the image swept around. The picture ceased to include the sea. It showed hills and illimitable areas of forest or jungle. From such a height only high-population areas show that they are inhabited. Here one could find small cleared areas by close inspection, but mostly one saw only treetops. Toward the horizon no clearings appeared at all, but at the horizon there were mountains. One of them was noticeably taller than the rest, and had snow shining white upon its upper surfaces.

“That’s Orizaba,” said Sam, to Tony.

The word meant nothing. The image continued to shift, and then

slowed in its motion, and the landscape and the sea moved back to their original positions and once more the whole scene seemed to move toward the camera and therefore the television screen it served.

"I am anxious to be polite," said General Osborne with great reserve, "but I do not believe that time travel is possible. I suggest that this nonsense be stopped and—"

Sam said urgently, "To the right, Ann! Hold to the line of the beach! There! See it?"

The landscape, neatly divided between tropic foliage and the ocean, continued to approach. And then, quite suddenly, there were many black pencil-lines against the joining-place of land and sea. Moving on steadily, the camera pictured them more distinctly. The pencil-lines were masts and spars of innumerable ships whose hulls became recognizable only moments later. But the picture was of remarkable subject matter—including the ships.

They were not ships it was easy to believe in. There were scores of them—close to a hundred—and only one in five was steam-driven, and those with smokestacks were incredible.

Something appeared on the shoreline opposite the ships. It was a city, and more than a city. The camera floated on, showing exactly what a buzzard might have seen two thousand feet high and soaring along a thermal air current's rise from the sunlit beach.

There was a fortress. There were white-walled buildings sprawling over a very large area. None of them were tall. They were enclosed in a wall which could be seen in part through and in part beyond a prickly-pear jungle and tropical forest and assorted tangled vegetation. That lush growth was stopped by the wall with battlements and loopholes.

"What on earth—"

"This," said Sam Creighton zestfully, "is the city of Vera Cruz, in Mexico. The time is March of the year 1847. That hump rising from the water is the fortress of San Juan de Ulloa. The ships at anchor are the United States fleet, anchored off Vera Cruz and making plans for the invasion of Mexico. The Mexican War has begun."

General Osborne said flatly, "I don't believe it."

Tony interposed.

"If Ann will let Sergeant Christopher handle the drone, General, you can verify that this is a live picture by having him control what the camera looks at."

MacGregor said with some irritation, "Tony, he'll make the drone behave unnaturally! He'll draw attention! He's had no experience!"

Tony said, "In 1847, if a buzzard behaves unnaturally, it will be

only a buzzard behaving unnaturally. Drones haven't been imagined. Let the sergeant run the buzzard by himself."

MacGregor straightened up. She was all icy indignation. She walked angrily away from the control desk. Doug said in apology, "We are supposed to turn everything over, Ann!"

MacGregor seemed to be speechless. General Osborne abandoned his impassive air. He scowled. He'd come here on what he'd assumed to be a fool's errand. Now it seemed to him that an attempt was being made to make a fool of him. He opened his mouth to speak.

Sergeant Christopher touched a control. The camera image went wild. The picture made insane gyrations. The sergeant hastily returned the control to its original position and the picture ceased its erratic behavior. In minutes it swept over the town. A bewildering maze of narrow streets flashed past below. Then the camera obviously headed out to sea, climbing as it went. It crossed water and went over the fortress of San Juan de Ulloa, which was remarkable in geometric precision of its walls and its rows of black-painted cannon. Fortifications in the middle of the nineteenth century did not specialize in concealment and camouflage. Quite the contrary! San Juan de Ulloa was deliberately designed to appear formidable; to impress the beholder rather than to escape notice. The art of war has evolved remarkably in recent years.

General Osborne said sharply, "Sergeant, does that image actually respond when you operate those controls?"

"Yes, sir," said Christopher. His expression was intensely alert. He reached out his hand. He moved this, and moved it back. He moved that, and restored it to position. "I think I'll have the trick of it in a minute. I'm trying to lower it, now."

General Osborne said skeptically, "Try to make it sweep through those ships."

There was silence in the Tunnel chamber. The General looked keenly about him. The chamber was large and deep underground, and there was no decoration in any part of it. If it resembled anything—save for the flickering Tunnel, which simply looked impossible—it looked like an oversized workshop in which an untidy workman built things at random, not knowing what anything would be until he'd finished it. The appearance was not that of a tidy and well-organized laboratory. It wasn't a tidy and well-organized anything. General Osborne compressed his lips.

The tech sergeant labored tensely and delicately to find out which control did what and to subdue the now erratic behavior of the image on the television screen.

He relaxed suddenly. He'd found what he wanted. He slowed the

motion of the image almost to a stop. Now he adjusted it so the camera seemed to look down from perhaps two hundred feet. The screen gave good images of scores of very strange ships at anchor, two miles offshore from the town and a little more than two miles from the frowning cannon of San Juan de Ulloa. The camera moved toward the mass of shipping.

Most of the vessels were sailing ships at anchor, with their barnacled bows rising and falling gently in long slow swells from seaward. Among them all there were no more than three or four fore-and-aft rigs, and they were among the smaller ships. The larger ones, with painted cannon ports revealing their armament, had transverse yards to which sails had been hauled up and tied. Of these, some had arbitrary large black pipes rising through their decks and up into their complicated rigging. These were smokestacks. These ships were steamers. And midway of each one's hull there were large, drum-shaped constructions. They were paddle boxes. The steamers were sidewheel warships with muzzle-loading cannon ranged in rows along each side. The cannon were held in place by heavy lashings of rope.

The image on the television screen moved very slowly, now. The camera had descended closer to the water. It passed within a hundred yards of a ship at anchor. There were men in antique seamen's costumes aboard it, working at routine tasks. They wore pigtails, which would be tarred. They wore varnished hats. There was an officer with a vast amount of gold braid and wearing a glittering sword—on a ship at anchor and with nothing of importance going on.

The camera went past it. Past another. Still another and yet others. One ship was crowded with men not attired as seamen, but in remarkably elaborate costumes. It was undoubtedly a troop transport. Sword-wearing officers wore pale-blue trousers and frock coats with their sword belts outside. Their hats were extraordinary. On one of the other ships a group of three officers stood atop a paddle box. They fairly glittered with gold braid. They could see the camera-carrying drone, of course, but they ignored what appeared to be a buzzard. They did not even notice whether it flew naturally or not.

The camera went on and there was a small, smoke-stacked dispatch boat moving about among the larger vessels. It had no paddle boxes or sidewheels. It was propelled by a submerged screw. It was the only floating object which was moved by a propeller, in the fleet of nearly a hundred craft of all shapes and assorted sizes.

The camera passed through them. It was ignored. Nobody looks at a buzzard. Nobody cares what a buzzard sees.

The fleet fell behind. The camera went on. Tech Sergeant Christopher said uneasily, "What do I do now, sir?"

"Bring that thing back here," said General Osborne shortly.

MacGregor, still indignant, nevertheless moved again to the control desk and watched sharply as the sergeant prepared to retrieve the buzzard-drone. She was jealous of his handling of the drone, but even more jealous of the drone itself. She wanted it to operate perfectly, no matter who handled it.

"No!" she said firmly. "Not that switch! This—and this." When the sergeant had corrected his error she said, "Now press this button!"

He obeyed. There was a momentary pause. Then the television screen's image flew to bits. There was the sound of thunder. The lights flared very brightly for the fraction of a second. They returned to normal. The flickering surface flames of the Tunnel went out.

Kirk picked his way past the missile and picked up the buzzard-like drone, inexplicably again in the Tunnel's metal web. He came out of the Tunnel, carrying the drone. General Osborne did not look at it. He meditated, very grimly. Then he said coldly, "I shall not like reporting this. It is very clever, to be sure. But in its cleverness it is the most brazen attempt at imposture I have ever come upon! Mr. Creighton, I am astonished that a man with your family background would lend himself to anything of this sort!"

Doug sputtered angrily. MacGregor drew herself up to her full five feet four inches. Kirk muttered furiously but inaudibly. Sam Creighton shrugged. Tony Newman said as coldly as the General, "We've claimed the transportation of objects into the past and future, General. High authority wants to know if it's true. That's why you're here. Are you going to report to them that you did not bother to find out? In effect, are you going to say you were too smart to examine something your superior officers want examined? That you know better than they do what is worth looking at?"

General Osborne said icily, "I don't know how you did what I've seen, but I do know that it is impossible and must be trickery! Nothing has ever moved in time and never will! It's a contradiction in terms!"

Tony's eyebrows raised a little. It wasn't a contradiction in terms. He repeated in a different phrasing, "Are you going to disobey your orders to investigate because you know more than the source of your orders?"

"I take it you think you can convince me, Mr. Newman. But this is so obviously chicanery—"

"You'll return with an opinion but no report except of your opinion? Wouldn't it be wiser—"

General Osborne ground his teeth. Then he said icily, "I will go through with it, Mr. Newman! And I will have full evidence—enough to jail the lot of you!"

MacGregor said disdainfully, “We’ll help you! Tell us what you want to know and we’ll show you and tell you—”

“I prefer,” said General Osborne, “to handle this my way! I’ll ask you to leave, and the sergeant and myself will go over the apparatus and see how it functions.”

Doug protested.

“But would you let a civilian test out an automatic rifle? Or a new hand grenade? There are megawatts of power involved in this thing! You could do enormous damage!”

General Osborne looked from one to another. Then he said, “I will have one of you—just one!—stay here and warn me against any test he considers dangerous. He will then make a written statement of the reason why each such test should not be made. I don’t expect to accomplish much with such a stipulation, but at least I will start out with it.”

Kirk said annoyedly, “Very well. Who’ll you pick for observer?”

General Osborne considered. His eyes did not linger on MacGregor. She was plainly angry. He dismissed Doug from consideration. He was trying to placate her. Sam Creighton had brought him to the Tunnel. Kirk had been an Air Force general, and might not let himself be ranked.

So he nodded at Tony.

“If he’s qualified, I’ll choose Mr. Newman.”

He seemed surprised that his choice went unprotested. The others left the Tunnel chamber immediately; MacGregor indignant, Kirk displeased, and Doug inclined to fume. But Tony did know the Tunnel and its capabilities. He also knew that he and Doug and Kirk were not dishonest. They’d devoted themselves to the building of the Tunnel without hope of reward. Now they’d have to add the keeping of their tempers to the rest of the obstacles they’d surmounted. It is true, though, that some people deliberately irritate others, as a way to get them at a disadvantage. Tony would have to keep his temper, now, under whatever provocation appeared. This was an Army test of the Time Tunnel, and the report had to be favorable or very much work and very much time would have been wasted.

The chamber door closed behind the last of the others. General Osborne said curtly, “You’re quite ready, Mr. Newman?”

Tony nodded. The General drew out a notebook. He tore out an already written-on page and handed it to Tech Sergeant Christopher.

“First this setup,” he ordered, “and then when I tell you, the second.” Then he addressed Tony. “Before I started, I had control settings worked out by an Army computer. They are not the same as

Mr. Creighton's. But you seem confident. I am now wondering if the Army figures were gotten at some time or some remove from you."

Tony said hotly, "No!"

Sergeant Christopher began to set up the control pattern. He had coordinates for latitude or an equivalent, referable to the Time Tunnel's position. Other coordinates, for longitude, referred to the same place. Still another was for height above the earth's surface, which was actually for height above the underground water table. The meaning of this figure had been found only after much trouble. Then there was a coordinate for time, to be computed in years, days, hours, and minutes from the moment the Tunnel was put into operation.

"I will use a drone," said the General formidably. "A different one. Mr. Newman will set it up for launching."

Tony said with careful politeness, "It won't be launched, sir. It will be transported."

He assembled a second drone. He made his way into the Tunnel with it, balancing himself by touching the huge missile. He put it down, threw switches, and on the way back said, "Check that the vision's working, sergeant."

Large, curved, meaningless shapes appeared on the central television screen. Tony stepped down to the chamber floor.

"It works, sir. All ready," said the Sergeant.

"Go ahead," commanded the General.

The sergeant pushed a button. There was a violent, thunderous crashing noise. All the lights dimmed. Sergeant Christopher tensed and his features twisted from a griping sensation in his stomach. The General made no sign. But Tony saw that he'd leaned against something before giving the go-ahead order. If he felt dizziness, it did not appear.

The television screen abruptly showed a singular landscape from an altitude of three thousand feet or more. There was a broad river flowing toward the camera. On one side, the river shore was an imposing rocky formation looking much like a much-magnified palisade of logs. The other side was tree covered. It seemed to be a peninsula formed by a second river flowing to join the first. It was wholly unlike the picture relayed from the other drone earlier. It was not tropic. It showed a city, but much smaller than Vera Cruz. The houses were different. They were more widely spaced. They were wood instead of stucco. They seemed crowded together only near the wharfs which lined the pointed part of the peninsula. There were many ships moored to those wharfs, and others lay at anchor waiting for places there. One full-rigged ship, though, was unfurling its sails out in midstream. Presently it would sail out of a narrow part of the

joined waters to the ocean.

"Swing the—hm—camera," commanded the General coldly. "We want a complete look, all around the horizon. As you may have anticipated, Mr. Newman, this is New York of an earlier time."

It was. Sergeant Christopher experimented carefully. The picture jerked, and once turned completely side-wise. He got it back to proper orientation. He swung it in a complete circle.

"Clever!" said the General, angrily. "You were able to prepare for this! You must have a good arrangement with the computer operator, to know what I would wish to see! But I question something. Is there any reason against a very close look at the shipping?"

"None at all," said Tony, seething. "Except you don't want the drone to touch the water. It'll short out. Anyhow the force fields don't work under water."

"A stipulation. A limitation," said the General. "Something I must not ask—for fear of revealing your methods of illusion! No operation under water!"

Tony nodded, with his jaws tight clamped. It would not be wise to speak, feeling as angry as he did. He watched the screen as the camera seemed to slant down and down and then—balancing delicately—floated above a wharfside street which was axle-deep in mud. He could see ship decks and cargo holds, and great drays drawn by heavy draft horses, and people in very old-fashioned costumes. There were sailors in varnished hats and flapping trousers. There were teamsters. There were top-hatted businessmen. Ships' Officers, very tidy but sometimes drunk. The image was absolutely convincing. It was a picture of life in the 1820s, in Anglo-Saxon New York, instead of the Latin city of the 1840s the television-screen had shown before.

The General said sharply, "Swing around, Sergeant! You just passed something!"

The image tilted and returned. It swung around and around over a particular spot. Someone on the ground was hauling at a rope that went overboard, between two ships' bows. He called for help and got it. Many figures went to his aid. They hauled on his rope with him. They brought up a glistening, flapping, struggling wet object which they swung ashore and dropped to the ground. It was eight feet long. It writhed and snapped wildly. Men beat it zestfully with poles and clubs.

"Enough!" said the General, very grimly indeed. "And very, very clever! The calculated time is the middle 1820s, I believe, and it is true that until near 1850 there were men who made their living by fishing for sharks in New York harbor from the wharves. So I admire your cleverness in showing it to me! But now, Mr. Newman, can the

sergeant here move this drone back another hundred years, so we can see the same thing when New York was practically only a village?"

"He can't do that from where the drone is," said Tony. "A thing can't be moved straight backward or forward in time. It would have to go into space it's already occupying in that time. There'd have to be two of the same object in the same place and the same time. And that's not possible, sir."

"Another limitation, eh? I take it you've other explanations of why you can't do this or that you're not prepared for?"

Tony's hands clenched. The General said, "Bring the drone back, Sergeant."

The sergeant threw a switch. There was a crashing. The television image flew to bits. The lights in the Tunnel chamber flared brightly for the fraction of a second. The drone was back in the Tunnel. It looked remarkably like a buzzard.

"Now, Mr. Newman," said the General, "I'm going to outsmart you! The sergeant was here before the Wotan missile arrived. It hadn't been tampered with then. It hasn't been tampered with since. I myself have seen an elephant vanished by trickery from a fully lighted stage, but it had to be prepared for. I doubt that you can vanish this missile without more preparation than you've been able to make. So the Sergeant and I will now go through the motions of launching it. It is hasty, perhaps, but you are very clever, Mr. Newman! You even had men catching sharks in that projected film of New York harbor in the past. I won't take the chance of your producing anything even more convincing than that!"

Tony bottled up his anger. His temper was going fast.

"It's all ready to go as far as the Tunnel is concerned," he said stiffly, "except that its cameras and its harness haven't been turned on."

"Then I will get you to turn them on, Mr. Newman," said the General almost genially. "And I will watch you while you do it. You will touch nothing but those two switches!"

Tony climbed grimly into the Tunnel. He threw the switches on the missile's harness, and picked up the drone on the way back out.

"Two more items," he said with great self-control. "You should notify MacMurdo Sound that the missile is on its way."

"I will do that after it is launched," said the General.

"And have you the course pattern set up for MacMurdo?"

"I have," said the General. "Maybe you have a confederate in the computing division which worked it out, but perhaps not. In any case it is different from Mr. Creighton's—and yours. I think that my figures

call for a detour from the detour you plan. Do you still wish to go ahead, Mr. Newman?"

Tony's temper was almost wholly gone, but he said shortly, "Naturally!"

"Sergeant, all ready? If so, you may press the button!"

His face pale, Tech Sergeant Christopher did so.

There was a crashing sound like all the empty barrels in all the world rolling down all the empty stairways. The lights in the Tunnel chamber dimmed almost to extinction. The chamber went dark until the bluish flames about its metal parts were the strongest lights remaining. A loud humming sound rose to a shout. Then the lights brightened again. Then the humming grew faint.

The Time Tunnel was empty.

3

THERE WAS one small oddity, though. At the instant of the missile's disappearance, it naturally ceased to occupy something like eight cubic yards of the Tunnel chamber. There was, then, abruptly a deficit of so many cubic yards of air in the chamber. The air remaining did not fill it to the same pressure as before. The effect was not one of explosive decompression, but the air pressure did drop instantly by the difference between sea level and some ten thousand feet of altitude. Tony felt a sharp, fierce outward pressure in his chest. Air left his lungs in a sort of reversed gasp. Then everything was quite normal except for hissing sounds as air came through the door cracks to even the pressure inside and out. Then that ended.

General Osborne had instinctively put his hand to his chest. The missile was gone. That had been predicted, but he didn't believe it. To hide his shock he asked angrily, "What happened to the air then?"

"The missile took some air with it when it went Out Yonder," said Tony. "So the air pressure in this room dropped a little. That's all. We haven't had that effect so noticeably before, but we haven't tried to move anything as large as the missile."

General Osborne looked at him with burning eyes. He still ignored the vanishing of the Wotan.

"Still trying to persuade me that this isn't clever trickery, Mr. Newman?"

Tony said hotly, "I stayed here to help you find out what we've done, and to see that no damage was done while you were finding out!"

"And I will find out!" promised the General. He was shaken, though. "You've just worked a brilliant illusion on me, but there are some things that are philosophically impossible, and time travel is one of them! This cannot be anything but an illusion!"

Tony said nothing. The General paced up and down, still pretending that the missile hadn't done anything unexpected. He stopped and stared at the television screens. They were not lighted, but they were not blank. The sky on the screens seemed black with tiny flickerings of light. There were half-lighted, indefinitely shaped areas below that blackness. One of the faintly glowing areas seemed to move toward the camera. Another two seemed to move sidewise. Another seemed to retreat. One screen showed speckles of light but no half-lighted

portions. Another was solid black.

"What," demanded the General sardonically, "am I supposed to think about what the television screens show?"

"That the missile," Tony told him shortly, "is being carried at a very high altitude. It's night. Those vague glows are clouds seen by starlight."

"But it isn't night!" snapped the General. He looked at his watch for certainty. "No! It isn't night!"

"Not where-and-when we are," agreed Tony coldly.

The General moved toward the Tunnel's mouth. Tony snapped, "Keep away from the Tunnel's mouth!"

The General stopped.

"Why?"

"It's dangerous," said Tony.

"Another limitation?" asked the General. "Something else I mustn't do? What will happen if I do?"

"It will kill you," said Tony. "I promise it. There are a good many thousand volts and plenty of amperes at work, now!"

The General again paced back and forth. He was still unable to refer to the missing Wotan missile.

"This has to be faked! Time travel has to be impossible! How could one go into the past and change events? They're fixed! They've happened! They couldn't be changed!"

"How could a thief get money out of a locked safe?" asked Tony. "The answer is, with explosives. How can a thing be moved in time? The answer is the Time Tunnel."

Technical Sergeant Christopher looked doubtfully at dials on the control desk and compared their readings with the settings of certain knobs. They matched. He leaned back in the desk chair. The General paced the width of the chamber and back again. He went to the telephone and picked it up. He began to speak grimly into it. He waited. He spoke again. And again. He waited once more.

Presently he growled into the telephone. He hung it up.

"There were radars placed," he said coldly, "especially to make a radar roof over the whole area about Project Tic-Toc. I have just asked if anything left this area by air. The answer is no. The Wotan did not go away from here! It has not left this project!"

Tony went to the control desk and looked over Christopher's shoulder. He worked out an approximation in his head.

"The dials say the Wotan is some hundreds of miles southeast by south. It's over Mexico now. The way it's headed, it seems bound to

cross Mexico and Honduras and go on over Ecuador, Peru, and most of Argentina. I wouldn't have advised that course."

"It did not leave this project!" thundered the General. "It doesn't matter what nonsensical course was set up on your stage-furniture control desk! It did not go anywhere!"

Tony found his hands clenched angrily. He found himself becoming dangerously polite. So he said evenly, "We're at a state where we can only contradict each other. We get on each other's nerves. I don't think we'll get anywhere—"

The tech sergeant said, "The moon!"

He pointed to a screen upon the wall. It was one of those which had shown pale masses moving across its surface. It now showed the moon, rising and red and gibbous, in what must be the east and seen by a side-view camera of the Wotan's harness.

General Osborne said harshly, "Another slip-up! There's been no moon in the night sky all this past week!"

"Quite true for here-and-now," said Tony, suddenly seething. "But the missile isn't here, nor is it now. You've implied that we're scoundrels. Now you're calling us fools! I quit! If your figures are right, the Wotan will arrive at MacMurdo. If not, it won't. Then call on us! You've a destruct button to detonate the Wotan's fuel if things go wholly wrong. But before you use that call on us!"

He went to the chamber door. He went out.

Minutes later he found the others congregated in Doug's office. It was a very matter-of-fact office to be found fifteen hundred feet underground. There were filing cabinets, a water cooler, a flat-topped desk, an air-conditioner and a group of telephones. MacGregor still looked indignant. Doug wore a sour expression. Kirk looked gloomy. Only Sam Creighton was relaxed. There was a single large television screen on one wall, but it was blank.

"Well?" asked Sam, when Tony entered looking like a thundercloud.

"I left without insulting him," said Tony, "but it was a near thing! He insulted all of us. He's been trying to persuade me that I'm a scoundrel and the rest of you scoundrels also. But his trump card was to have Christopher go through the motions—that's what he called it—of sending the Wotan Out Yonder. He did it to prove that the Tunnel couldn't work."

There was dead silence.

"What happened?" asked Doug, after a moment.

"It worked," said Tony.

Again dead silence. Then Doug, appalled, "Do you know where it went? And when?"

"He had some figures." Tony briefly outlined the General's suspicious securing of independent control settings, then his doubt that he'd been suspicious enough, and his assumption that even his figures might have been supplied by a confederate of the builders of Project Tic-Toc.

"This is bad business!" said Doug, harassedly. "I'd better go and explain to him—"

"No good," said Tony grimly. "He's got the idea that time travel is philosophically impossible. It isn't. He probably means inconceivable, like a four-sided triangle. It isn't that, either. But things are happening he can't believe in and he's blindly calling everything a conspiracy."

"He's a fool!" said MacGregor. "Nobody but a fool would think Doug wasn't honest!"

"I hope," said Tony, "that Doug's virtues are contagious."

Away from the General, now, he was not so angry. Men judge of new things by very many and diverse standards. A military man would believe in or disbelieve in the Time Tunnel as a weapon, and another kind of man would judge it as a way to rob all of Earth's treasures, while yet another would see in it a way to solve all crimes and still another would see it as the perfect way to commit them. Tony and Doug and Kirk and the others had a strictly unique viewpoint. They regarded it as a job at long last finished. Their attitude toward it was like that of a bank teller toward currency, when he handles thousands of banknotes every day without the least temptation to steal them. He doesn't think of them as money to be spent. Handling them is part of his work. The Tunnel had been their work. The General probably couldn't see it that way because he couldn't envision it as a weapon.

Time went by in Doug Phillips' office. Presently Sam Creighton said uncomfortably, "I thought I was bringing a good idea back with me, but it doesn't look too promising now."

"Name it," said Tony. "We could do with something that looked good, right now."

Sam Creighton shrugged.

"There's background data. I belong to a family that's been Army for five generations. I'm the first to take up anything else. But my father was a soldier's soldier, and generals are cordial to me because I'm his son. One of the deputy Joint Chiefs of Staff told me yesterday that I should have carried on the tradition."

Tony said nothing. Sam went on, "I was talking about the Tunnel, because he's one of those in on this testing. He had a queer angle. The Army likes things to be reliable. Easy to maintain. Foolproof. Absolutely dependable. He said, suppose there was a missile being carried on a detour bombing mission by the Tunnel. Suppose

something went wrong, and it landed. Crashed. It would be aground some time in the past. Back in time. What could be done about it?"

"We'd send a salvage party back in time to retrieve it," said Tony. "Doug and I have been Out Yonder. It would be perfectly practical!"

"So I told him," said Sam. "He was surprised. Then he said it might be a good thing for Osborne to schedule a simulated equipment-recovery operation as part of the test of the Tunnel itself. Strictly Army stuff. Instead of a helicopter to pick up a downed jet pilot, use the Tunnel to pick up something marooned out of its proper time. I don't think he expected me to take him up. I did."

"Of course!" said Tony.

"Quick orders," said Sam, drawling a little. "People jump when a mutiple-star general speaks! The target and detour-period were already chosen for the Wotan—I said I'd something to do with that!—and this could simply be added to the program. So Archives got busy, not knowing what it was all about. The CIA faked some papers, in all innocence. The Quartermaster Museum dug up a couple of uniforms. I brought them back. I've perfect signed commissions for two second lieutenants, orders for them to report for duty, and so on. We couldn't reach Osborne at the time. I was told to bring them here and offer them to him. Now I think I'll wait. I'd hate to have him send somebody else. I'd like to go Out Yonder myself."

Doug had paid no attention. He said gloomily, "What happens when military equipment breaks down under test?"

"It's out," said Kirk sardonically. "It's finished! And that's what's bothering me! It's my opinion that Osborne is going to make a hash of things. Which would put us in a pretty mess!"

It would. Even if the Tunnel passed every imaginable test and was cherished by those who knew about it—even then the funds technically diverted might become the subject of inquiry. And they couldn't be explained, because the explanation might leak out and every other country in the world would instantly strain to duplicate the Tunnel and even more instantly would hate and fear the United States for having it. The solitary safe development would be for all the armed forces to unite in covering up the fact that there was such a thing. All three could do that and all would be well. But the Army had to be satisfied first. And to put it mildly, that didn't look probable just now.

"If the Wotan get's to MacMurdo," said Tony, "I'll be surprised."

"And if it doesn't?"

"We're sunk," said Tony grimly.

A telephone on Doug's desk rang sharply. Doug waited for the

second ring to identify the calling instrument. He picked it up from his desk.

"Hello?"

The telephone made buzzing noises. Doug slammed down the instrument and bolted for the door. Tony hadn't heard the words, but the sound of frantic buzzing and then Doug's rush told him enough to act on. He was only half a second behind Doug out the door. He knew that Sam and Kirk were jumping up as he vanished beyond it. He was ten yards behind Doug at the first turn in the corridor. He was five yards behind when there was a flight of iron steps to another level in the Project's maze of corridors. Around a corner and he was even. He snapped, "Tunnel chamber?"

"Yes," gasped Doug. "Missile—out of control—"

The corridor widened and its ceiling lifted. There was the giant freight elevator and the small personnel door of the Tunnel chamber opening out of it. The big doors weren't open to the chamber, but the small one was, and Sergeant Christopher's spectacled face peered affrightedly out at them. Behind the sergeant there were flashings of intolerable blue-green light.

Tony went in with a rush, Doug on his heels. The Tunnel chamber looked like an inferno. There was an arc between copper busbars, tinted an unholy color by the vaporizing metal. Thin clouds of something like metal steam swirled and twisted above it. The arc did not stay still. It seemed to race crazily here and there, sometimes separating into two crackling, roaring points of electric flame. Again sometimes there were more. Once there were five arcs leaping and seeming to gibber together as they flickered and raced about. The usual lights of the chamber varied from almost normal to dim red glows.

General Osborne fought the arcs desperately. He'd found a push-broom for tidying the floor. Its wooden handle was an insulator, being dry. He struck at the arcs, trying to drive the metal surfaces farther apart. It was not the safest way to fight an electrical fire. Had the broom been heavier, though, he might have bent the copper bars enough to extinguish the arcs one by one. But the complexity of the metal grid defeated even the attempt. He did knock out one arc, but the vibration from his blow made something flame violently somewhere else. He attacked that and two others snapped and crackled into being.

Tony grasped him by the shoulder and dragged him away. He flung at the Tunnel's master switch just as Kirk and Sam arrived. He pulled it fiercely.

The arcs died instantly. The lights brightened. There was the smell

of hot metal and the reek of burned insulation. The smell of ozone was perhaps strongest of all. But then Tony jammed the Tunnel switch on again and turned to see if the arcs reestablished themselves.

They didn't. Now there was only smoke and smells in the air. Tony's eyes went to the television screens. They were working again, and Tony muttered wrathfully. When he'd left the chamber a little while since, the screens had showed stars and moonlit clouds and a distorted, red, new-risen moon, and some of the clouds approached one camera—and one screen—while others moved in different appropriate directions.

But now light-specks flashed crazily across every screen. The direction of their movements changed but never ceased. And Tony had seen enough of images returned from buzzard-drones to know that the Wotan missile was in the act of spinning while tumbling end for end from some unguessable height toward something unknown far below.

Then, suddenly, what was below ceased to be unknown. There was a city down there, moon-drenched, sleeping, appearing on each of the screens separately at a different angle every instant.

Tony groaned. Christopher jittered visibly. Tony flung himself into the control-desk chair. He twisted a control. The motion of the missile, as reported by the screens, took on a new quality. It changed. Its tumbling became something else. The spin produced a gyroscopelike precession. Stars were streaks of light going now laterally and now vertically up and down each screen. The moon was a band of light. The cameras of the missile's harness showed in flashes but unmistakably that the Wotan plunged upon the sleeping city.

Tony tried another control. Again the tumbling changed but did not improve. A third control stopped the spinning for seconds, no more. He worked the controls fiercely to find which one was now useless. For one moment the Wotan seemed to balance on its tail. Then it fell off into new gyrations.

Doug suddenly departed on a run. He intended to fetch MacGregor, who was better qualified than anybody else to handle the missile's controls. But there was no time to wait for her. There was a city down below. The Wotan fell toward it. Its fuel contained vastly more available energy than any mere high explosive used in cannon. If its tanks let go on landing, the consequences wouldn't be those of an atomic bomb, but they wouldn't be far behind. A considerable part of a considerable city might be destroyed with all the people in it.

"I'm blowing up the missile," said Tony harshly. "Nothing else to do!"

It would make the Tunnel a failure on its first officially unofficial test. It would make its acceptance by the Army improbable. It might

result in an inquiry which would reveal the Tunnel's existence—and the intolerable results from that. But there was a city down below. The Wotan tumbled toward it.

Tony pressed the destruct button.

And nothing happened. He stabbed the button a dozen times. Still nothing happened. He knew despairingly that the detonation device must not have been armed before the missile left the Tunnel.

So he fought the missile with what he had to fight it with, feverishly trying each control in turn, knowing that at least one was not working and all were needed. He was tormented by the knowledge that it could be landed if a million-to-one chance worked out.

It didn't. There was one instant when he almost achieved something. A complex and purely accidental combination of turning and no tumbling produced a momentary picture of the situation as quite clear. In that pause, he could see that the missile must be only thousands of feet high. He could see the moonlight on ponds, on lakes. He could see the city plain. It was large, but it was without lights. There were no glowing windows. No streetlamps. It could be a dead city, or only a sleeping one with many whitewashed walls to reflect the moonlight. It could be anything. There were specifically no streetlights. The missile moved across the city as it fell.

The houses grew larger and more distinct as the missile tumbled. There was no activity nor any illumination anywhere. Blocks which were buildings. Rectangles which were houses. Lines and geometric forms which were made by whitewash in the moonshine. There was a black space, surrounded by obviously artificial construction.

The city seemed to leap toward the cameras, swelling on all the screens in turn they relayed its appearance. There was a tiny black spot. It grew larger. It seemed to expand explosively. It seemed like an open mouth, an abyss, opening wider to engulf the falling missile. The images of houses fled away to the sides of the screens. The blackness filled the screen.

For the briefest of instants there were glitterings.

Then all the screens went dead.

4

MacGregor came in, and Doug asked agitated questions, and Sam Creighton answered them. MacGregor briskly began to make careful notes of the control settings and dial readings while Tony still sat numbed and sickened at the control desk. There was no longer any remarkable sight or sound within the Tunnel chamber, though there were two trivial changes.

The humming invariably to be heard when the Tunnel was in use was subtly different. One of the notes that gave it quality was missing. It was incomplete. And the huge tracery of steel and copper which was the Time Tunnel was almost normal, but not quite. It flickered and wavered from the lambent bluish light which combined with its design to make it somehow strain one's eyes when it was looked at. It also was subtly different. Just one twisting, winding, intricately curved busbar was dark while all the rest glowed and pulsated as before. But these were unimportant, to all seeming. Nothing significant was visibly wrong. There was still a smell of ozone and still reeking vapor present, but what damage had been done had only the sensible effect of changing one sound and leaving one thread of a complex metal web unlighted.

MacGregor said crisply, "The dials say everything's working except Lateral Force Field Four, Tony, but there's nothing Out Yonder for the other force fields to work on. There's no turned-on harness. The missile's harness isn't working. None of it."

Tony said in a sickly fashion, "Where did it land, Ann? And when?"

"The controls—" MacGregor said annoyedly, "They aren't set for the detour pattern we planned. We intended for almost all the detour to be over ocean and back in time. It wouldn't matter where it fell, in case of accident. But General Osborne must have sent it out on a different course entirely and maybe in a different time! I'll have to plot it."

"That's the first job," said Tony, still numb and sickened. "It fell into a city, somewhere! It may have detonated its fuel, though the destruct button didn't work. It may have wiped that city out completely!"

"Whatever it did," said Doug bitterly, "we'll be blamed for it! And the Tunnel will be rated undependable because it flunked its first test! It'll be considered that it failed because it was a fake! So there won't be acceptance by the Army, the Navy and the Air Force won't bother to check it, and the whole idea of temporal transport will be broadcast

as nonsense, but somebody somewhere will notice that it's not!"

Tony very deliberately cut the power to the now-useless Tunnel. The humming, deep-toned power-sound ended. The screens, from blackness, became blank. The crashing noise of its cutoff was not as loud, this time, because nothing was coming back at the moment of cutoff.

"The first thing," said Tony, "is to find out what the Wotan did. Ann, feed the dial readings into the computer and find out where it crashed. Plot it. Then get the time of sunrise and moonrise there, for the date when everything happened. Then we can find out what the missile did."

General Osborne said bleakly, "I can tell you what happened."

"What?"

"You went away. You were angry. So was I. I still didn't believe this —time-travelling device was anything but a deception. You'd warned me not to touch it. So I believed you did not want me to examine it and find the trick by which it seemed to work. So I resolved to test that, at any rate. You'd said that if I touched it, it would kill me. It was something I could verify."

Tony waited. He didn't feel anything in particular. This disaster was too great to call for anger.

"I pushed a broom into the Tunnel. Nothing happened. I touched it, with the broom. Nothing happened. I intended to step into the Tunnel to see what trickery was devised. But you'd said it was electrically charged. I balanced a metal wrench on the broom to find out if that was true."

Tony nodded.

"And that did it," he said. "The wrench did it."

"It did," said the General drearily. "I wish you had been more convincing, Mr. Newman! I believed you were trying to make me believe the impossible! So I touched the wrench to a glowing bar. If the whole business were conjuring, there could be no harm. But the wrench went white-hot and began to melt and drip on other bars. An arc started. Then other arcs began all through the entire framework. I tried to break them, but it was too late."

"Much too late," agreed Tony with a marked lack of cordiality. "You'd blown out a control-circuit. I couldn't get the missile in hand again. I tried to detonate it—"

"That," said General Osborne, "was when I realized there was no deception! When you tried to detonate the missile it was proof that it was far away! Then I believed you! Only then!" He added grimly, "I will testify to this effect before any board of inquiry!"

Tony shrugged. Such an admission wouldn't do any particular good. A board of inquiry would be absolutely fatal to everything that had been hoped for from the Tunnel, and worse than fatal in bringing about everything there was reason to fear.

MacGregor looked up from her calculations.

"I can tell you the date it landed. The drone view of the fleet off Vera Cruz was March 9th, 1847. The time setting when the Wotan went Out Yonder was five months and some days later in the same year. To be exact, August 10th, 1847. Just before the capture of Mexico City in the Mexican War," she explained somewhat stiffly to the General. "We compiled a table of historical events so we could calibrate the Tunnel's controls by seeing them. It will be a little more difficult to compute just exactly where the missile landed."

"But it has to be done!" said Tony. "We have to find out what it did!" He paused, and said doggedly, "And we have to get the Tunnel working again to find out!"

MacGregor set to work. Doug went to trace the power-supply of Lateral Force-Field Four all the way back to the atomic-power unit that supplied all of Project Tic-Toc. Kirk and Tech Sergeant Christopher began a painstaking examination of every inch of the tunnel's metal parts, to see if any arc had burned long enough in one place to make a significant weakness.

MacGregor got figures to four decimal places. She gave the significant ones to Tony, and he called Washington on the direct line that had been needed before. He asked for the time of sunrise and moonrise on that 1847 August date. In theory nobody at the other end of the line knew what the line connected to Washington, but they had orders to act—and fast!—on any request that came over it. He got the times. He turned to MacGregor again, but General Osborne faced him with the memo he'd given the tech sergeant for setup on the control desk.

"These are the figures I used," said the General grimly, "when I believed this whole affair was deception. This was the course and time setup that moved the Wotan away."

"MacGregor," Tony told him, "got them off the controls. Anyhow this isn't important. We've got to settle a question it never occurred to us to ask until now."

"What is that question?"

"What happens," asked Tony, "when a missile with tons of high-explosive fuel happens to fall out of the future upon a city in the past? It should change the past. The past should be elastic to some degree. It is! But it is hard to imagine changing the past to the degree of blowing up a city a century ago, when yesterday it was still standing!"

He moved away. The problem would have seemed foolish only a few hours ago. Now it was appalling. Tony still fought off the suspicion that he'd made a small mistake with the consequences of a monstrous crime. He'd left the General in the Tunnel chamber. That should have been trivial. But it might have the consequences of the most conscienceless crime in history.

MacGregor was using a pair of dividers on a large-scale map. Tony saw place-names. Orizaba. Popocatapetl. Vera Cruz. Jalapa. Cerro Gordo. MacGregor's divider-points stopped. There was a map-maker's symbol for a city with more than a million population. There was an added symbol which said it was the capital city of a nation.

"Mexico City, eh?" said Tony. "The Wotan fell on Mexico City?" He was curiously and unnaturally calm now. "What happened when it hit? Whatever did happen should have been impossible. It should be contrary to reason. It should be—"

He looked at the memo of moonrise and sunrise time at Mexico City for August 10, 1847.

"It was half an hour after moonrise when the Tunnel broke down and the Wotan crashed. Sunrise would be forty minutes later. We want to time this very close, Ann. Leave the controls where they are. We'll send a drone to the exact spot as soon as it's light. Only forty minutes after the crash. Then we find out."

MacGregor said firmly, "It wasn't Doug's fault, whatever did happen!"

"True," said Tony. "It's nobody's fault—not even mine! But—don't you see? We've always considered that there couldn't be danger from the future, but only from the past, as when a bullet strikes us fractions of a second after some fool has pulled a trigger. Now it looks like death can come out of the future too, if somebody's unborn grandson does something in time yet to come!"

"It was not Doug's fault!" repeated MacGregor.

Tony spread out his hands. Sam Creighton had found where the wrench that had done all the damage clung, half-melted, to one of the steel bars. It had dripped and made the original short circuit. Now Sam cut at it with a small acetylene torch. It would not short again, after it was removed. Tech Sergeant Christopher and Kirk examined every place where an arc had burned, however briefly, to see if any spot was dangerously weakened. Doug was checking the power line to the atomic pile and the giant generators it powered.

Doug came back, harassed but relieved. He'd found a bad connection which on high-amperage load had melted down. He'd repaired it. The Tunnel should be operable again.

Tony picked up a drone and turned on its camera and time-harness.

He climbed into the Tunnel and put it in position to be sent out when inspection was complete. He looked at his watch.

General Osborne stood aside. What damage had been done, including the loss of a Wotan missile, could be charged to him. What damage the missile had done was another matter. But in practice, despite his protests of guilt, it would be the Tunnel and its makers who would be rated undesirable. The supposed absurdity of the Tunnel would be revealed to all the world. And it wasn't absurd. Somebody would realize it.

Sam Creighton removed the last trace of the melted-down wrench. Kirk and Christopher finished their inspection. There was no need for words, after that. MacGregor took her seat at the control desk. She said precisely, "Tony, I'm changing one setting. The signal from the missile's harness cut off at ground level. I'm raising the drone well up in the air so it won't run any risk of collision."

Tony swallowed and looked at his watch again.

"It's daybreak there," he said. "Go ahead."

MacGregor surveyed all the desk-top instruments. She changed one of them. She put a linger on a button. She pressed it.

There was a sound like the clap of doom. There was all the uproar of a thunderbolt. The chamber lights dimmed, and the intricate tracery of the Tunnel's members flashed blue light, and then settled down to an unimpressive wavering radiance. There was a humming as of enormous power rushing to its work. And General Osborne winced visibly and Tech Sergeant Christopher clutched at his stomach. The others paid no attention.

In the same instant the drone-buzzard vanished from the Tunnel and the central and largest television screen disclosed a color image, swaying and wavering very slightly, which was that of a vast valley whose floor lay half a mile under the camera that transmitted its picture. The camera was not on a steady platform. It was obviously carried by a buzzard floating with motionless outspread wings over a city in the valley bottom.

The city was not a modern one. Its streets were narrow and crooked. There was no railroad going toward it or away. There were no highways of concrete going into and out of it. There was no airport. Nothing flew over the city. There was no smoke; there was not so much as a single factory chimney anywhere to be seen, and the air was as clear and pure as any countryside. There was as yet no activity at all. The streets were empty. And the city was in a vast, vast valley in which the cones of apparently extinct volcanos had upheaved themselves. Around and beyond the valley there were other mountains, of which one did give off a thread of smoke. There were

lakes. And it was so early in the morning that the only living thing immediately noticeable was one actual, real buzzard, soaring like the thing which carried the camera. On closer search there were two small clouds of dust outside the city. One was stirred up by the minute figure of a horseman, moving at what was probably a trot. The other dustcloud was larger, and it was caused by the movement of a wagon drawn toward the city by two oxen.

"There's been no explosion here," said Kirk. "But where is the missile?"

Tony didn't speak. He couldn't.

The camera-carrying drone floated onward, while MacGregor worked its controls hundreds of miles—and more than a century—away. It slanted down toward the town. On the way it passed over a two-hundred-foot hill which appeared flattened by the height from which it was seen. In the city proper there were only narrow streets. Elongated shadows darkened them. There were no cars, no trucks, and only very rarely a pedestrian. In the first sweep across the city the camera picked up several oblong objects with spots of color at the center of each. They were mounted men seen from above. In an arid small open square there was a completely enigmatic object which presently could be seen to be a coach with four horses.

As a city the place was preposterous. There were dwellings for a hundred thousand people, and not a factory in which they could work. There were many churches but no industrial area. No communications. The open country showed no lines of telephone or telegraph poles. There were no roads except trodden and meandering tracks, principally to be seen when they went through vividly green places where crops grew. Those tracks served as highways.

Tony took a deep breath.

"It didn't go off!" he said unsteadily. "Maybe luck, and maybe a bomb from the future can't explode in the past. Anyhow it didn't go off!"

Doug said querilously, "But it must have hit somewhere! Where?"

Tech Sergeant Christopher said diffidently, "I thought I saw glitterings when it hit. Could it have fallen in one of the lakes just outside the city?"

"It landed in the city," said Tony. "The ground seemed to come leaping at the camera in the moonlight. There were houses. Then there was a blank space—"

General Osborne moved over to the television screen. He put a finger on a particular spot. He spoke to MacGregor.

"Try here."

She threw the drone into a vast, wide sweep. It circled over innumerable whitewashed houses. It went downward. Larger buildings became distinct as individuals. Very low, now—no more than two hundred feet—the camera floated swiftly along the exact line of a cobbled street. It passed over a rider and his mount, who from overhead looked like anything but a horseman. There was a plaza with a cathedral occupying all of one side. Hereabouts there were no more small buildings. These were the dwellings of the rich. But behind the cathedral there was a structure filling all four sides of a green quadrangle actual acres in extent. It was a garden. Somehow, even from aloft, it looked like the building might be a convent for a community of cloistered nuns.

There were walks. There were artificial plantings. There was even a considerable clump of trees well away from the center of the open space. And among the trees and hidden by them from any viewpoint but that of the camera drone, there was a pond.

All this was visible in the fraction of an instant as the seeming buzzard soared over and on beyond it. Kirk said, "Look!"

Tony's hands clenched tightly.

"There's a broken tree-branch!" he snapped. "Ann! Ann! Try to get another look at that pond! It looks like something crashed into the trees there! Circle it as low as you can!"

"I saw it," said MacGregor precisely. "And nobody seems to be watching. I'll try to get you a good look."

She brought the remote-controlled artificial bird around. She swept it to the pond in the three- or four-acre garden of this convent. She brought it to a stop, in midair and held it there, exactly as a buzzard sometimes seems to hover quite motionless where rising wind currents hold it up.

And here, from only tens of feet above the treetops, it was evident that something had crashed through the trees. One large limb was broken from a very large tree and its leafy end dipped into the water of the pond.

The camera moved again. It looked straight down into the pond's depths. It could see to the very bottom from overhead, though anyone at the edge could not look down at all. The pond was self-evidently for the irrigation of the convent garden.

And down underneath, well under water but definitely to be seen and identified, there was the Wotan missile.

Incoherent noises arose in the Tunnel chamber. MacGregor swept the drone away. It climbed and climbed, circling. MacGregor seemed to take a certain professional pride in making it behave exactly as a living buzzard would do.

"It's down there," said Tony, almost ill from pure relief. "And it didn't blow! So we don't have to worry about what may happen when a bomb from the future falls on a city in the past! Not this time, anyhow!"

MacGregor said, "Well?"

"Bring the drone back," said Tony. "We want to send it back in another time period. Just one thing to be sure of. Maybe we've nothing at all to worry about, but we'd better make sure!"

He was totally relieved. General Osborne said, "This is good fortune I didn't expect! But still—"

Tony held up his hand. He stared into the depths of the Tunnel despite the stinging of his eyes. MacGregor said, "Here it comes!"

Suddenly there was a buzzard in the tracery of the Tunnel's web. The television screen showed busbars instead of landscape.

"Hold it, Ann! Don't turn anything off! We want to send the buzzard back to the same place, but in now. Today. In this instant."

MacGregor blinked at him. Then she looked thoughtfully at the controls before her on the desk top. She selected one and very painstakingly adjusted it.

"I don't see what—"

"We'll look at the pond today," Tony explained confidently. "The Wotan hasn't been found in the pond since it fell there a century and something ago. There'd have been a record of it. A century ago it wouldn't be believed to have been made on Earth. The rocket engines would have been pure mystery. Even later the metal it's made of would have been thought unearthly. Its computer would have been incomprehensible. Nobody'd have been able to figure out what it was for. Maybe they'd credit it to the Aztecs. Certainly there'd have been a library of books about it. So it hasn't been dug up. And we'll just make sure of that and relax!"

MacGregor completed the adjustment of the time-control, which determined how far the buzzard-drone would go into the past. Objects up to hundreds of pounds could be transported anywhere in space and time together. But anything as massive as the Wotan demanded enormous amounts of power. It was most practical, for military use, to get it back into a suitable time-period and then move it in space only to its destination and then return it to its normal time. The buzzards, of course, needed no such two-stage operation.

MacGregor nodded.

"Ready!" she said crisply.

"Go ahead," said Tony.

The Tunnel was already in operation. It hadn't been cut off.

MacGregor pushed a button and the drone-buzzard vanished. No sound. No surge of power. Nothing to be noticed.

But the television-screen again showed a vivid color image of a landscape. Again the picture wavered and swayed, but this time was of a later date.

The valley still appeared, unguessable miles long and wide. The mountains about it were quite unchanged. But the city was ten times its former size. It was now a metropolis. There were tall buildings, as modern as tomorrow morning. There was much traffic; private cars and buses and motor-trucks. There were highways. There were railroads serving this city, and there was an airport with a commercial plane in the act of landing.

They found the pond because it was behind the cathedral. Otherwise they'd have missed it. The former convent was being torn down. What had been its cloistered garden was being levelled and excavated. There were bulldozers at work, lumbering and lurching and piling up mounds of earth that power-shovels loaded into trucks to be carried away.

The pond was still there. It had been surrounded by trees, some of whose cut-up trunks could still be seen. The pond held water.

But the levelling process would unquestionably remove it. The ground level was to be brought down by yards, where the pond stood. Bulldozers would carve away its banks and drain its contents and pile up its bottom mud for power-shovels to load onto rumbling, grumbling trucks.

The Wotan missile had fallen into that pond more than a century before. It had never been dug out. It would be discovered by the blundering, clumsy blade of a bulldozer. It had been made of materials a hundred years would not affect. It would be discovered by a massive blade that would almost certainly rip into its very vitals. And it could detonate from that. Fallen into water, it hadn't exploded. Ripped open by a bulldozer it much more probably would.

If it detonated, the disaster would be inconveivable. It it didn't, and the world became aware that an American missile had been found in Mexico City, ready to blast it to rubble …

There would be no place in all the world which would not believe the United States busily placing bombs in all the cities of Earth. There would be no place where the United States was not feared and hated, no place where any American would not be despised.

It looked like the bulldozers should reach the pond in a very few days, perhaps four or five. To discover or to detonate the Wotan where it had lain for a century and more.

5

THE WORLD went about its business as usual. People worried about their jobs, and their money, and their romances and their grades in college classes. They fretted over minor inconveniences and things they wanted and couldn't have. They tried to think what to do about their wives, and their children, and the monthly bills. But practically nobody worried about the disasters that could come of a missile dropped in a pond in the heart of Mexico City more than a century ago.

The people who knew about it did not share this indifference. General Osborne had reported the situation to those higher officials who should be informed. He offered no excuses for himself. He told the facts in a strictly objective fashion. In consequence, Doug had been summoned to Washington to explain the matter in more detail than the General's report. He carried notes compiled by Tony, calling for information to be used in remedial action. But the remedy Tony proposed seemed little less insane than the building of the Tunnel itself now appeared.

Now, in the Tunnel chamber, Kirk labored over the small travelling device which had stood neglected in a corner. It was a crude platform some six feet by four, festooned with oddments like a harness, television cameras, and an elaborately calibrated spring scale. It had a pipe-railing about it, to keep things from falling off.

Tech Sergeant Christopher wandered about like someone lost and confused, contriving questions to ask Kirk and Tony and General Osborne and Sam and MacGregor. They seemed absurd, those questions.

For one, he wanted to know if a man moved into the past and died there before he was born, what would become of the children he had before he went into the past? Tony explained patiently that what a man did in a given time period was a part of that time period, and that going into the past and returning from it was much like going to another city and returning to one's own home town afterward. Seeming paradoxes resolved themselves when viewed with this fact in mind.

Sam Creighton worked zestfully with MacGregor, who with her accustomed efficiency used a needle, thread, and a seamstress' scissors to help handle a situation brought about by a Wotan missile gone wild.

In Washington, Doug Phillips conferred, sweating, with the few high officials who knew what was going on. For a time some insisted that the Mexican government would have to be told the whole story—that some tons of high explosive in an intercontinental ballistic missile had been deposited in a pond in Mexico City's very heart. People who proposed this agreed that the United States must undertake to remove it and to make reparation for the annoyance to Mexican citizens the removal would require.

Completely safe removal, of course, would mean the evacuation of the city while the removal took place. There was the chance that the fuel would blow during the effort. There was the certainty that other nations would suspect similar bombs in their cities. If the way in which the Wotan had arrived there was suspected …

It was not a pleasant state of things. The two countries had been friends, having fought only one war and that many, many years before. There'd even been a partial parallel to this situation in the very early days of rocketry. One of the first missiles to lift off from White Sands got lost in flight. Nobody knew where it was until it landed after exhausting all its fuel. It landed a few miles inside Mexican territory. The United States apologized contritely and the Mexican government amiably gave permission for its removal. But it was never brought back. When giant trailer-truck vehicles appeared to pick it up, it was gone. Because all the population for miles around had converged happily upon it with hacksaws and cold chisels, and they'd carried away every last fragment to be souvenirs of the modern missile age.

But this situation was different. Rockets are propelled by what amounts to a continuous explosion at their sterns. Explosives for that purpose filled the Wotan's tanks. It had used no fuel. It had been transported by the Tunnel. All its fuel was in its tanks, and capable of exploding now.

So Doug came back from Washington sweating. He entered his office deep underground to find Tony and Kirk and Sam Creighton waiting for him. Kirk looked satisfied. Tony looked wryly resolute. Sam Creighton looked pleased.

"I never thought I'd regret the Tunnel," said Doug harassedly. "But now I do! I'd give ten years of my life if we hadn't started it! Things are in a mess!"

"It doesn't look irreparable to me," said Tony. "Not from here."

"I thought not, myself," said Doug. He wiped his forehead. "But you should have been where I've been!"

"Didn't you remind them," asked Tony, "of the time an atomic bomb fell overboard off the Spanish coast and was recovered from the

sea-bottom half a mile down? Didn't you point out that all we have to do is recover a missile of about the same size from a century and something in the past? Didn't you tell them it's practically the same problem?"

"I told them that," said Doug bitterly, "but it's not the same problem! That Spanish bomb wasn't bound to be found or exploded some time soon or in the middle of a city! This one is! They say we have to tell the Mexican government, because otherwise we can't get it away before it's found or detonated."

"Nonsense" said Kirk. "We've got a hundred years to do it in! We can go back ten years, haul it out of the mud, put a new harness on it because the one it had is plainly shorted, and then either bring it back to the Tunnel or send it on to MacMurdo as planned."

"No," said Doug in despair. "Pictures from Mexico City and reports from leg-men there show that the Wotan will be found in not less than three days or more than five. And when we go into time and stay an hour and return, we come back an hour after we start out. If we stay a day, we come back a day later. If we go back and spend ten days digging up the Wotan and fitting a new harness to it, we'll come back ten days after we started and the Wotan will have blown up. There's no way around that!"

"We can take a big salvage crew and do the job in a hurry—"

"Yes?" Doug was pale and stricken. "Say you do it ten or fifty or a hundred years ago. Forget about getting high-clearance pick-and-shovel men who'll do the work and not talk about it afterward. Forget about getting twenty men there when the traveller we've got will carry no more than two. Forget about food and tools. The Wotan went down in the garden of what was the most respected convent in Mexico. They found that out in Washington. How long could a dozen or twenty foreigners—us!—dig at an irrigation-pond in that convent's garden without being discovered? How could they explain their presence and be believed? How long before police or if necessary soldiers marched in to throw them out? Take it at its worst—how long could they fight off soldiers who'd be suspecting them of every imaginable crime because they wanted to dig a hole in that particular garden? The convent's being rebuilt, now, in a more appropriate location— And if you think we could make a deal to dig something up at this late date—"

Sam Creighton had looked hopeful. His expression changed. Kirk had looked annoyedly confident. He stopped. Doug said wretchedly, "I'd give half my life if the Tunnel hadn't been built!"

Tony had listened without a movement or a gesture. Now he said carefully, "Most of the time you're right, Doug. But—when are they

going to tell the Mexican government?"

"At the last minute," said Doug drearily. "We've CIA operatives in Mexico City, watching the Cuban commies from the inside of their organization there. We can call on them to watch the bulldozer's progress. The people in Washington who backed us in sneaking the Tunnel into existence—they're trying to work out something. But there's not much hope!"

"I think," said Tony thoughtfully, "that if we've men in the commie organization, they might work for us. Call a strike. Phoney a working-conditions complaint. If they start at once—"

Doug refused to be comforted.

"You might gain a day or two, but nothing permanent."

"Not permanent," agreed Tony. "But with a slightly modified drone I should think we could sabotage the bulldozers—to have it blamed on the commies. A drone could do things to fuel tanks, and probably to injector nozzles, and soluble rubber in the fuel will do interesting things, and there's amyl nitrate … I think we could stall off a digging up of the Wotan for—maybe weeks of this time period, and Sam and I will do our stuff in another time period entirely."

Doug had been in Washington, where the situation of the Wotan in the convent garden had a select group of high officials unable to sleep of nights. He'd heard no hopeful word while he was away. He'd been regarded as a monster of now-insane achievement. He felt whittled down to next to nothing.

"Do you really think—"

"We haven't got a hundred years," said Tony. "But we can stretch things. What did they think about the idea of a salvage operation?"

"Thumbs down," said Doug unhappily. "Sending a missile halfway around the world, five miles high and in the past—that's all right. It couldn't affect any living creature. It couldn't change history by a particle. But digging a Wotan out of a pond in a practically sacred place, with workmen and police and maybe soldiers involved … There's no telling what that would do to historic events! It might make us hated and changes come from that. There's no telling what could be the result! We might have been alone in two world wars! We might—some people certainly wouldn't be born! Maybe us!"

Tony said, "Sam has tentative approval for a simulated salvage operation, if Osborne would include it in his tests."

"That needn't involve people!" said Doug. He looked haggard again. "It could have been done where there was nobody around. This can't!"

Tony looked from one to another of his companions in Doug's office.

“There comes a time in the affairs of men,” he observed, “when one has to take a chance. We can’t get in any worse trouble than we’re already in. We weren’t authorized to build the Tunnel. Osborne wasn’t authorized to blow a circuit in it. This is our baby. So. Sam and I will get the Wotan out of that pond and MacGregor will send it to MacMurdo.”

He stood up. Doug said uneasily, “But how—”

“You call Washington and suggest a strike. Ask for ideas for sabotage. I’ll arrange the rest. Kirk, I want you to make something and plan something else. Sam, come along with me. We’ve got to brief MacGregor and change our clothes. See you in half an hour in the Tunnel chamber, Doug. And cheer up! They can’t do anything worse than hang us!”

He went out, followed by Kirk and Sam. Doug was left alone.

While Project Tic-Toc was under construction, there had been a great many people here. Their transportation to the work area had required much ingenuity, since they mustn’t know where they went, or where they were, or where they’d been when the job was done.

Now there was next to nobody in what had been a considerable installation. There were only some guards and a smaller number of maintenance personnel. They had exactly the right selection of such men. There are some men who will take any job and keep it indefinitely, if only it doesn’t require them to think. The guards and maintenance crew of Project Tic-Toc were of this breed. No other type could have stood the monotony.

So there was no disturbance anywhere because of the trouble the Wotan had caused. Only Tony and Kirk and Doug, and Sam Creighton and MacGregor, bestirred themselves after Doug got gack from Washington. General Osborne held himself bitterly aloof. Tech Sergeant Christopher tried to be useful. Kirk promised to instruct him in making time-harnesses. MacGregor bit off sewing-thread and sewed a button. Doug argued with Washington until a strike was promised to be arranged. It would let jittering men postpone disaster a very little while longer.

Time passed; an hour or more. Tony and Sam Creighton changed their clothes, or began to do so. Kirk called MacGregor away from being a seamstress doing tailoring under stress. In other parts of the Project there was a faint, muted, murmurous sound like thunder. It would be the Time Tunnel in its chamber, sending something Out Yonder. Presently there was a similar growling noise of the Tunnel cutting off after bringing something back. MacGregor returned to her sewing. And Tony and Sam put on uniforms as MacGregor turned over their separate altered and fitted garments.

“I don’t like these clothes,” said Tony, as he struggled with improbable straps placed where nobody could get at them.

“My ancestors wore ’em,” said Sam. “I consider that I’m carrying on an otherwise abandoned tradition when I put them on. But I’ll never be able to brag about it!”

Tony attempted to settle his coat, and discovered that he’d left off the time-harness, which was of crucial importance. He got out of the gold-braided frock coat and the waistcoat beneath it. He put on the harness and put them back on. There was a miniaturized television camera hidden in a bullion shoulder strap. An almost microscopic microphone went under a lapel. A bone-conduction receiver fitted behind his ear where it would take actual search to find it. Sam buckled on his sword belt. It carried a holster besides ths sword.

“I don’t like this pistol,” Sam observed. “I’m still cagey about possibly changing the past. I know it can’t be done, in theory, beyond a fairly trivial amount of elasticity. But if I had to shoot somebody with this I’d worry myself sick over what I might have caused to happen or un-happen and what dislocations of fact and history must have come of it.”

Tony shrugged. They went to the Tunnel chamber, resplendent in the military costume of a bygone age. Oddly, the swords did not seem to interfere with walking. They inspected each other and passed. They went into the Tunnel chamber, and MacGregor beamed at them.

“Tony!” she said pleasedly. “And Sam! Those uniforms really do fit you now! I should have been a tailor! Turn around!”

Tony stood still. He took note of the traveller—that four-by-six-foot platform with a pipe-rail around it, and television cameras and feedback units and other paraphernalia attached. It was inside the Tunnel proper. It had evidently been Out Yonder and back. It was ready to go Out Yonder again. Sam turned about for MacGregor to admire him.

“This,” he explained, “is the uniform of a second lieutenant of the Virginia Volunteers, now commanded by a certain Colonel Jubal Early. I’ve an admirably forged commission entitling me to join that unit. Tony’s commissioned in the Pennsylvania Volunteers. As purely political appointees only, we’re not expected to be competent—just present.”

General Osborne did not smile.

“I wish I could take over your errand,” he said moodily.

“I’m afraid we have to do it ourselves,” said Tony.

“I’m afraid you do,” admitted the General. “After all, this is a simulated equipment-recovery exercise. You want to discover any

problems that may turn up in the recovery of the Wotan. The uniforms are partly because you may possibly be seen, but also partly because they'll be part of your equipment. Right?"

"Right," agreed Tony. He turned to Kirk, "The dummy's overboard?"

"Yes, it weights just about as much as the two of you together," said Kirk, scowling. "I went Out Yonder with it. I left it. Now you can get some information out of bringing it back. I don't know what the information will be."

"How about the tow-ring?"

"It was part of the original design," said Kirk irritably. "Don't you remember?"

Tony spread out his hands. Kirk's irritation was part of the upset all of them had felt over the idea of parting with the Tunnel, after so long working with it. Kirk's specialty had been the weaving of time-harnesses which made the force fields of the Tunnel activate things properly surrounded by them. He'd devised, personally, the feedback units without which one could not hope to recover anything once sent out into another time. He'd just been Out Yonder for the first time. Now he'd have the essential but unglamorous task of making a new harness for the Wotan, whose original one was unquestionably no longer workable after its descent.

"Everybody knows the program, then," said Tony briskly. "Very simple. Just a test to learn the trick of handling things with the traveller so we can't have trouble when we go for the Wotan."

MacGregor seated herself at the control desk. Sam handed Tony a small parcel. This was a practice run, and the parcel's contents shouldn't be needed in any event, but it should anticipate every emergency that could arise by any accident when they went after the real Wotan. The parcel included a second lieutenant's commission, ostensibly signed by the President of the United States, James K. Polk. There were orders for lieutenant so-and-so to report to the Pennsylvania Volunteers in Mexico, wherever they might be. There were other documents. A letter to the same lieutenant so-and-so from home. The postage had been paid by the recipient, not the sender. There was a packet of money—gold pieces no longer current and banknotes issued by banks long since forgotten. They'd tried to think of everything for this rehearsal of the task before them. Anybody who does actual research knows how rarely anything attempted works perfectly from the beginning.

General Osborne said heavily, "Hadn't you better take another look at the pond? That broken-off branch may have made somebody investigate what broke it."

Tony was impatient. But the Finagle laws—which say say that in any sort of research or experiment everything that can go wrong will always do so—the Finagle laws apply strictly. Kirk looked irritable. Doug was a bundle of nerves, and Sam Creighton was plainly on pins and needles at the thought of his first journey through time. It was commonplace enough to think about such a journey, but making it was another matter. The General's suggestion made sense.

Kirk, scowling, put a buzzard in the Tunnel at the dispatching point. He verified that the traveller, already there, had its harness turned off so the temporal transportation fields wouldn't affect it. He came out and nodded to MacGregor. She said primly, "All ready, everyone?"

Tony said, "For Heaven's sake go ahead!"

"Five," said MacGregor. "Four, three, two, one—"

Thunder crashed within the Tunnel chamber. The buzzard vanished. The traveller remained. The central television screen on the wall abruptly lighted. The image wavered, but a part of it was instantly recognizable. It was Mexico City of 1847, now a long, long way beneath the drone-carried television camera. The drone soared and slanted down toward the city's huddled buildings. Very few were more than one story tall, and the towering cathedral was easy to find. The camera-carrying artificial buzzard whirled and banked above it in very convincing circles. There were figures moving in the streets, but they did not look up at a buzzard.

It swept away and swept back. It soared low down over the irrigation pond. The inhabitants of the city, naturally, paid no attention. Some few figures in the garden itself moved tranquilly here and there. They also did not look up.

The buzzard swept away and slanted back, again. The Wotan missile should be visible from directly overhead, but it would be invisible from any other angle. The camera hovered for instants. The Wotan was there. There was no sign of any agitation anywhere. It hadn't been discovered.

"All right," said General Osborne heavily, in the Tunnel chamber, "there's no question. It wasn't found right after it landed. There's no reason to think it was found in the next hundred years. The drone can come back, now."

MacGregor ignored the suggestion. The artificial buzzard circled up and up and up, with MacGregor watching what it saw.

Suddenly, she stopped its circling. She held it almost stationary, very high indeed for a buzzard. Something was happening at the far end of the town. It was confused and confusing. Something dark seemed to flow out upon one of the bare-earth trails that served for highways in the year 1847.

The camera-drone slanted downward toward it. The image clarified as it enlarged. The dark movement was men. They flowed along the trail, raising a dust-cloud with their feet. Occasional speckles of sunshine came from among them. When the column came more fully into view there were horses. Then more marchers. Their close-packed mass came to an end and pure confusion followed them.

The buzzard-drone descended once more. Presently it was only a thousand feet high, and then five hundred feet, and then the picture was wholly understandable. The first group was a column of infantry marching in fours, very badly aligned and with no pretense of keeping step. They seemed to shamble along, raising dust in a thick, rolling mass which drifted off to the side of the road. They carried muskets at every possible angle. Behind them the horses became explicable. They drew cannon, some of them brass, and there were carts which were not cannon. They would be ammunition wagons. Riding artillerymen lounged or dozed as their equipment rolled on at a languid pace.

The soaring thing went no lower, because buzzards do not fly low over the heads of humans. It circled, there above the heads of a very considerable human mass of moving men and horses. The uniforms of the men were vivid, with red braid. Here and there gold braid glittered—officers.

After the cannon came a second body of infantry. It duplicated in detail the dress and shambling gait of the leading group, and in the stirring of dust and the varied angles at which muskets were carried. Behind the last of the infantry came a hopelessly unmilitary mob. There were wagons and a few donkeys, and then an indescribable swarming horde. Most of its members were women. Some carried babies. There were half-grown children, keeping up with the march in the dustcloud the soldiers and horses stirred up and they themselves increased. But there were also wagons on whose loads the younger, smaller children had perched themselves for transporation.

General Osborne said disapprovingly, “This is absurd! It’s ridiculous!”

“They don’t think so,” said Tony. “This will be a column of Santa Anna’s army. It’s 1847. There’s a war on in Mexico. We’re invading, via Vera Cruz. Santa Anna is president of Mexico and he’s moving troops down to meet and drive the *diablo Yanquis* into the sea. In perfectly normal fashion for the period, this and all other troop movements are made on foot. They’ll travel maybe five miles a day—a little faster if there’s great haste! Of course the soldiers’ wives and sweethearts and their children go along to war with them! A lot of these small figures will be killed when our army encounters them!”

There was a moment’s silence. Then Doug said harassedly, “But we

have to think about the Wotan, Tony!"

"Just so. And it could be detonated in that city we see, and half the population be wiped out. Let's do our stuff."

MacGregor said something disapproving. She pressed a switch. The lights blazed brighter for an instant. There was again the sound of thunder. The humming noise which was power for the Tunnel's force fields cut off. The buzzard was in the Tunnel again, alongside the pipe-railed traveller.

Tony and Sam, without words, made their way over the beams and busbars into the Tunnel's inner section. Tony picked up the buzzard and tucked its wings and body, separately, into a corner of the much-too-small traveller. He and Sam climbed in and settled down. Tony nodded to MacGregor. It was all very matter-of-fact. MacGregor counted, "Five, four, three, two, one!"

There was a monstrous, crashing uproar. When it ended the variegated turns and twistings of the Tunnel's framework were bathed in lambent, flickering, bluish flame. The power-hum became hearable as the thunder died.

The traveller wasn't in the Tunnel any longer. It had vanished.

So had Tony and Sam.

6

THE SENSATIONS of going Out Yonder were excessively unpleasant. While thunder seemed to roar in the Tunnel chamber, Tony had the acutely disagreeable experience of acceleration through time and space together. All his muscles stiffened as if in sudden tetany. At the same time they jerked convulsively. There was an unbearable feeling of stress, as if every atom of his body were being hauled at simultaneously from every possible direction. His breath left him. He felt as if all the blood in his body rushed into his head, to make an unbearable pressure and anguish.

Then everything stopped.

He wasn't underground any more. There were insects stridulating nearby, and somewhere there was a soft patting sound as of water lapping on a beach. There was a gentle warm wind blowing overhead. Foliage rustled and whispered, but not quite like any other foliage he'd ever listened to. A bird called very close in a quick sequence of three notes that he'd never heard before. To people hereabouts those three notes sounded like, *"Yo-te-veo! Yo-te-veo! Yo-te-veo"* which means "I see you!" and signifies exactly as much as a whip-poor-will's plea for punishment.

He opened his eyes to an infinitude of riotous color. Off to the left there was a small clear stream, here emptying into a small swamp which in turn ran on into the sea. Overhead there was sunlit green foliage. He was crouched down in a distinctly cramped position in the traveller that Kirk had overhauled earlier today and made a previous trip to this exact spot. Sam Creighton stirred. He blinked at his surroundings. He essayed to stand up. So did Tony. They had a moment's difficulty disentangling their feet. They got out of the traveller. Sam stared around with an expression of high satisfaction.

"Arrived safe," said Tony curtly.

It was a report made to the microphone under his lapel. It was controlled by the switch of his time-harness. When it was turned on, as now, he had two-way communication with the Time Tunnel, and could be located and picked up by its force-fields. He could also be moved to anywhere, including back into the Tunnel.

"I'm here too," said Sam blithely. "I'm treading in the footsteps of my great-great-grandfather. He was a hero of the Mexican War. Did I ever mention that, Ann?"

MacGregor's voice via bone-conduction was somehow tart.

"You did! Innumerable times! Do you know where you are?"

"No," said Sam. He grinned at Tony.

MacGregor scolded.

"You don't pay attention! We need the drone up, now. We want to scout around you. We don't want to do that with the traveller!"

Tony overheard, of course. With two time-harnesses in operation besides the Tunnel, there was three-way communication. He picked up the drone-carcass and fitted the wings into place. He held the assembled drone aloft.

"Okay to take the buzzard, Ann," he said.

The drone which had seemed so much like a stuffed bird when it was still, seemed to come to life instantly. It lifted from Tony's hand. It soared away to seaward, and swung back toward the shore. It went out of sight behind the treetops. What it saw, of course, would appear on one of the television screens in the Tunnel chamber. What the cameras of the traveller saw would appear on other screens. MacGregor's voice came from behind Tony's ear.

"All clear so far!" she said briskly.

Tony grunted. His surroundings were totally strange. Behind him swells that had survived a long expanse of shallows made small bumping noises on the beach. He could catch glimpses of the sea through the thin, scattered trees. So far as storm-waves could cast spray ashore, the salt hindered the growth of trees and underbrush. Inland there was jungle.

He moved toward the swamp next to the open sea. This was to find out exactly how the Tunnel's force-fields would work with a heavy burden to be brought out of water and lifted far away. It was a new problem. There had to be dry runs to see how serious the difficulties might be, because when the actual removal of the Wotan was attempted, it would need to go off quickly and without disturbance.

Sam followed him toward the sea. The buzzard came sweeping back over the treetops. It saw them and MacGregor's voice said cheerfully in their earphones, *"Nothing to worry about. The only sign of life within a mile is a thatched hut in a clearing with some horses."*

Tony grunted acknowledgement. Sam waved at the buzzard as it went past overhead. It banked steeply and went inland again.

"There's the dummy," said Tony. He pointed.

It was a steel cylinder to represent the larger object the Tunnel had sent Out Yonder and now needed urgently to retrieve. It was not a duplicate of the Wotan, but a representation. It had a towing ring at its forward end. So did the Wotan. It was under water. So was the

Wotan. This dummy had no time-harness, but the Wotan's had unquestionably been torn or somehow disabled for use when it fell into the irrigation pond. Filled with water, as it was, the dummy paralleled the actual problem very well.

The two of them, Sam and Tony, went to where the traveller rested on the ground. It seemed a totally commonplace event. But a buzzard swept in vast circles overhead—and it was not a living buzzard, and a woman's voice came from it occasionally via microwaves. The platform seemed wholly prosaic, but it had come from a time very, very many years remote. Still, everything looked commonplace.

Yet Tony reflected that Project Tic-Toc, from which they had come, literally did not exist anywhere on earth. It existed only in the future. There was no such thing as a telephone on earth. There was not a foot of concrete highway. There wasn't a drop of kerosene oil. Lamps burned whale oil or colza, or for lights out-of-doors they burned turpentine. There was no way to record pictures except on silver plate with mercury and after half-hour exposures. But it was most strange to think that the Time Tunnel did not exist.

Tony spoke to it now.

"Ann, we're going to shift the traveller over to the dummy tank. Get set to give us some lift."

"I'm running the drone," said MacGregor severely. *"Doug will sit by me and do that."*

Doug's voice, *"I'll put on enough lift to leave you fifty pounds to handle."*

The pipe-rail platform seemed to stir a little. So the two of them, Tony and Sam, picked it up and marched it across the sandy semibeach to where the dummy of the Wotan lay barely under water. Tony waded out with a rope from the traveller in his hand.

The buzzard swept by, high up. MacGregor's voice came to Tony's ear.

"There's an American officer at that thatched hut," she said vexedly. *"I can't make out what he's there for! You're miles from Vera Cruz. So is he!"*

Tony put the rope through the towing ring of the dummy tank. He fastened it. Sam said amusedly, "Maybe he's waiting for us."

MacGregor snorted audibly. The buzzard went away. Sam fastened the end of the rope to the traveller's tow ring, underneath its floor. It had never been used before, though it had been included in the traveller's design in case anything should need to be lifted or carried from one place to another in some unpredictable time-period. It should be possible for it to drag the Wotan—and hence this practice object—out of water and to solid ground to be prepared for temporal

transportation to somewhere else.

It was possible. Very matter-of-factly, the empty traveller, controlled from the Tunnel, pulled the practice tank out of the small swamp, out on solid ground, and Sam got out the carefully folded time-harness the dummy, like the Wotan, would need. The two of them attempted to enfold the dummy in it. It was confusing. It was difficult. It got tangled. Tony said, "Here's one thing learned. We've got to figure out a better way to get this harness on! Especially since we'll be working in the dark. Kirk?"

Kirk's voice, *"I hear. I'll work something out. Carry on, now, for more troubles."*

They went on with the task. Small difficulties appeared. The fastenings of the harness weren't practical. The harness stuck to the wetted metal of the practice dummy, definite item to be adjusted before the real job was attempted.

MacGregor's voice. It was waspish.

"Tony, I see soldiers! Mexican soldiers! They look like they're following a trail to that clearing and the hut!"

"Watch them," said Tony. In another tone he said, "Lift the dummy, Kirk."

Nothing happened. Kirk, *"I'll try the traveller."* The traveller lifted obediently. Nothing else happened. The dummy did not stir. The traveller had a harness. The dummy had a harness. Both should lift equally briskly when the force fields operated. The traveller did lift. The dummy didn't.

"Something's wrong," said Tony grimly. "It's lucky this is a dry run!"

MacGregor's voice again, *"Tony! Sam! Those soldiers are positively headed for the shack where the American officer is! They'll kill him! This is wartime! They'll kill him. It's May, in 1847! They'll kill him! You have to do something."*

Tony said with some grimness, "We're in trouble now from introducing new factors into a past time period. I'm talking about the Wotan. We shouldn't change things in the past. We don't know what the result would be if we could change things violently enough, but we shouldn't try! Kirk, I think the trouble with the dummy is simply wetness."

"How's that?"

"The tank that's subbing for the Wotan," said Tony, "was underwater like the Wotan. Hauled out, it's wet—as the Wotan will be. We put a harness on it, as we'll have to do to the Wotan. If we don't find out why this doesn't work. But it may be simply wetness!

We know the force-fields don't work under water. Maybe they don't work next to water. We have to find out."

A pause, with the small waves of the here-shallow sea making slapping noises on the beach. A bird insanely repeated *"Yo-te-veo! Yo-te-veo!"* There were rustlings of branches in the wind that came from the sea. There were a few small ripplings in the narrow clear stream that here entered the ocean.

"That's nice!" said Kirk's voice sardonically, back of Tony's ear. *"That'll be wonderful if besides all the rest the Wotan has to be dried after being hauled out of the pond, before we can lift it away! A lovely addition to the job!"*

It would be. Especially if the Wotan's steel surface was chilled and condensed night-moisture on its plates. If it had to be bone-dry for the Tunnel to handle it, the fact could add hours to the time needed to get it up and away.

"This being a dry run," said Tony, "we'll simply have to let it dry and see if it works then. But we're not going to have much time, at best!"

The last statement was pure paradox. They'd come back well over a century to practice the prevention of an explosion in the time they came from. But in a century and more they wouldn't have much time!

The buzzard swooped overhead. MacGregor's voice, angry and urgent, *"Tony! Sam! There's no question about it. That American officer is waiting for something! He doesn't know about the soldiers coming! But they are! He's playing with a brown-skinned child! The soldiers will kill him! You mustn't let that happen!"*

"We're trying to save more than one life now, I suspect," said Tony grimly. "We shouldn't interfere. But if we can keep from disturbing natural happenings too much. There are horses at the shack?"

The buzzard was disappearing over the treetops again, but MacGregor's voice continued in the earphones without diminution.

"Yes. Four or five. In a sort of corral. What can you do?"

"We've got to let the dummy dry," said Tony, "to find out if that's the trouble. If it is, the real job is tougher! Kirk, you'd better take the traveller away."

The seemingly irrational platform which was the traveller made an abrupt whooshing sound. Then it wasn't there any more.

Then there were just the two of them in very resplendent uniforms standing on an imperfectly overgrown patch of ground. There was a wet steel tank, some five or six feet tall and nearly a third as thick, standing up with clumps of salt-grass about its base. It was draped with a lacy harness, to which feedback units and cameras were

attached. From the towing ring at its nose a piece of rope straggled down to the sand and ended. Tony began to remove it.

"This should dry fairly quickly," he said distastefully, "but the Wotan won't. Not at night, with dew condensing. Anyhow there's no point in our waiting for it to dry. Kirk will have to find that out. We can come back if necessary."

Sam grinned at him.

"And therefore—?"

"We'll see what we can do about this American," said Tony.

The buzzard swooped down. MacGregor's voice said warmly, *"There are saddles against the back wall of the shack, Tony."*

"How about the soldiers?"

"On the way. Still—oh—nearly a mile from the clearing. You can get there first. The clearing's right by the stream."

"I think," said Tony without elation, "the horses are the answer. If he'll go with us, we can take him away from the soldiers he doesn't know about and we can't explain our knowledge of. Then if Ann will watch out for us, we can come back later, if we need to work on the dummy again. And anyhow we can be snatched back to the Tunnel by our personal harnesses if we get in any real trouble. It should be safe enough."

"Which," said Sam in gentle irony, "is the first thing in your mind. You're a very timorous person, Tony!"

Tony growled. He headed for the jungle close by the stream. Sam followed exuberantly. The rehearsal planned for this spot had promised nothing but an unexciting journey Out Yonder and back. But now there would be action such as a normal man in modern times couldn't imagine sharing. Sam was pleased.

"My great-great-grandfather," he said zestfully, "would approve of a descendant of his going to persuade a fellow officer to be rescued. It's lunatic but noble behavior."

"I'm trying to forget that it's lunatic," said Tony.

The denseness of the underbrush increased as the distance from the shore grew greater. Presently it was jungle. And there had been no actual event associated with war, but in the increasingly difficult jungle, warfare seemed unthinkable. They struggled to follow the stream. Vines held them up. Sam took his sword and hacked at them. It helped—a little.

Tony said suddenly, "Just when are we?"

Doug's voice answered. His voice came in the earphones in the densest part of the jungle between the sea and the yet unseen clearing.

"The control-desk dials say you're—hm—wait a minute—April 13th,

1847. Cerro Gordo will be fought—"

"I know the schedule," said Tony.

"Kirk picked that date," Doug told him, *"because all the fighting should have moved inland. Vera Cruz is quiet. The idea was there shouldn't be any disturbance. But Ann did pick up those soldiers with the buzzard's camera. Maybe they aren't soldiers. They could be deserters—"*

"How many?"

"Thirty—forty—"

Tony scowled.

"The horses are our best bet. Ann will scout for us. She can see when it's safe to come back—if Kirk doesn't find that the dummy moves when it's dry. We don't want to affect what happens in a time that isn't our own. That disappoints Sam. He feels gloriously military and heroic!"

"Don't believe him, Ann," said Sam. "It's Tony who's champing at the bit for battle, murder, and sudden death!"

It all sounded very cheerful and confident. But it was the firmest of all principles attached to time-travel with the Tunnel that nothing must be done to change the facts of history.

They saw increasing light ahead. Tony gestured Sam to silence. They went on with, thorny vines impeding their progress.

They came to the clearing. It began at the stream. There was a thatched-roof hut. There was a rail-fenced space where half a dozen unpromising horses grazed without enthusiasm. A fire burned under a metal pot before the shack. A brown-skinned child sat in the sunshine, beaming at a figure in American uniform with pale-blue trousers and frock coat. For the admiration of the child, the American was performing some trivial conjuring trick. The child giggled. The officer turned sharply when Tony and Sam appeared. His hand went to his sword belt. But then he lifted it, instead.

"How d'you do! Glad to see you! Are you headed for Vera Cruz?"

"Naturally," said Sam. "We—"

The young officer shouted imperiously. A face appeared at the door of the hut. The face was dark and greasy, and at sight of the new-come pair a great agitation manifested itself. He made wide gestures and sputtered. The young officer spoke curtly, "No more nonsense. There are three of us now and no one will bother us! Get three horses right away!" The greasy face vanished. The officer was annoyed. "Confound him! He's been trying to tell me there are bandits on the road! It wouldn't surprise me if he's sent word for them to come! Let's take the horses. He'll come out to get his money!"

Tony was relieved not to have to account for himself. He went with

the others to the very crude corral. They caught three horses. There were saddles behind the hut. They had the three least spavined and swaybacked animals saddled when the greasy-faced man reappeared, wringing his hands. But he accepted money for the three horses. They rode away. The child waved after them.

"I paid five dollars apiece for these horses," said their new companion ruefully. "I understand the going price is three!" Then he said, "I was put ashore last night. The schooner I was on couldn't beat up-wind to Vera Cruz. I might have taken a week to get there! So I had myself put ashore. I figured I'd get some sort of transportation. Couldn't have that much delay! I'm carrying dispatches on the way to join my regiment. New appointment. Politics."

He shrugged and grimaced. But there were very many commissions given during the Mexican War for political reasons. Most them were for higher ranks than lieutenant, though.

He was a most carefree young officer. By this time they were moving along a horse-trail which arrived at the clearing and went on again. So near the coast, the trail might be a throughfare for soldiers on the watch for smugglers. On the other hand, it might be a throughfare for smugglers watching out for soldiers. In any case the clearing vanished to the rear as the jungle-trail closed behind the three travellers.

A buzzard swept overhead, coming from behind. It went on ahead. Tony was acutely aware of it. He was also aware of the oddity of Sam and himself risking interference with the events of a past time to try to save the life of a man who had no faintest idea of their motives.

Their companion chatted cheerfully. He talked about politics, which was responsible for his commission. He reported the latest political news from home. President Polk had wanted to make a senator of his party into a lieutenant-general and then put the conduct of the war into that politician's unqualified hands. His own party had stopped him. The young officer discussed the violent speeches of Ohio Senator Tom Corbin, who denounced the war in Congress. He considered the speeches rabid, even for a Whig.

Tony knew nothing of politics in the year 1847. A hundred and a quarter years later, they didn't matter. He rode frowningly, now and again looking behind in case the soldiers had heard of the *Yanqui* officers without troops who would probably have some valuables on them.

The trail widened suddenly. For a certain distance two horses could travel side by side. Sam happened to be ahead. Their new friend moved up alongside Sam. It occurred to Tony that they didn't yet know his name.

There was a sudden furtive stirring at the trailside, ahead. Sam saw gun barrels. He shouted and spurred forward, snatching out his five-shooter revolver. Six-shooters—percussion, of course—had not yet been developed. White powder-smoke billowed out. Tony was throwing lead on his own account before a second musket went off. A bullet went by his head so close that he felt the wind of it. He jerked his horse's reins and drove it into a space where only saplings grew. Then he was afoot, darting from one place to another, angrily counting the bullets he had left to shoot, but furiously making his way through the thickets to where men had lain in wait.

Sam Creighton had done nearly the same thing. Tony saw vast billowings of white vapor coming from his weapon. Then he plunged across the horse-trail and he and Tony faced each other where their would-be assassins had lain in wait for them. One of the men of the ambush was still there. His features expressed blank astonishment at his own death. There was a trail of colored splashes leading away. They did not go far. That second man lay on his face. They were not soldiers. There were desperate thrashings in the jungle as the survivors of the ambush fled away through jungle that should have been impassable.

But the young officer whom Tony and Sam had tried to lead out of danger—he lay on the ground. His horse trembled and tried to back away from him. The horse's reins were caught about his wrist.

He was dead. The first shot fired had just missed Sam and killed him.

Very grimly, they prepared to do what seemed necessary. As if automatically, they looked for identification, though it was absurd to have travelled a century merely to report the death of a man who in their own time would have been dead for generations.

Suddenly, though, they were staring at each other. Sam Creighton was deathly pale. His cheeks were more nearly gray than white.

Their recent companion had been carrying dispatches, in the casual fashion of the days when messages could only be carried by men and ships and horses. They were probably orders for military action in the invasion of Mexico. They should be delivered, lest the past be changed by their nondelivery.

But Sam's pallor had another reason. The identity papers in the younger officer's pockets told who he was.

He was Sam Creighton's great-great-grandfather.

7

THEIR UNIFORMS looked singularly out of place back in the Tunnel chamber and in their own time and proper environment. The Time Tunnel was no longer in operation in a strictly military manner, but General Osborne was technically still in charge of Project Tic-Toc. He'd taken over, and in testing the builders' claims for the Tunnel he'd produced as appalling a situation as anyone could well imagine. It had been reported to the high authorities who'd risked very much in secretly approving the Tunnel's construction. There was much classified despair in Washington. But General Osborne hadn't been relieved or ordered to return the Project to those who'd built it. No other general officer would have been willing to take command of so ill-omened an enterprise.

So Sam reported to the General, giving full details to the instant of his and Tony's return to the Tunnel chamber.

"We took the body to Vera Cruz," he said evenly, "and turned it over to the hospital there for burial. Then I delivered the dispatches. Then Tony and I got on our horses again. We rode out of town, and it was an hour after sundown. We unsaddled the horses and turned them loose. We made sure we weren't observed. Ann was sweeping a buzzard overhead to make sure there was nobody about. Then Doug, here, linked up the Tunnel's force fields to Tony's harness, and Tony turned his harness off so he couldn't be brought back first."

General Osborne said, "Why?"

"He guessed what I was thinking," said Sam. "I still think I should have done it."

"What?"

Tony interposed.

"We'd been the cause of his death—of Sam's great-great-grandfather's death. It was very much like the paradox of a man going back in time and killing his grandfather, so he shouldn't be able to be born, so he wouldn't go back in time and kill his grandfather. But then he would, and so on. Only it wasn't quite that!"

Kirk rapped on the door. Doug identified him and let him in.

"What was the difference?" demanded General Osborne.

"Sam had delivered the dispatches," said Tony. "But then I realized that he'd switched identification papers. So I knew what he meant to do."

MacGregor said severely, “You shouldn’t have attempted such drastic action, Sam, without consulting the rest of us! Luckily you hadn’t turned off your harness, so Doug and I knew what had happened and we snatched you back to the Tunnel in the middle of a word. When Tony saw you vanish into thin air he turned his harness on again and then we brought him back here too.”

Kirk said, “You seem to be conducting a post-mortem on something I missed. I was checking Tony’s guess that it was moisture that kept the dummy from lifting, and would keep the Wotan grounded too. Anything that’s wet, and wets a harness, keeps the Tunnel’s force fields from working. It can’t be moved in time. But I didn’t hear what you’re talking about. What did Sam do?”

“I put my identity papers in my great-great-grandfather’s pocket,” said Sam harshly. “And I took his. Tony didn’t know about it until he found out I’d delivered the dispatches as Lieutenant Austin Creighton, just arrived from home with dispatches and to report for duty.”

General Osborne blinked.

“But why on Earth—”

“He was my great-great-grandfather,” said Sam, as harshly as before. “He was dead. But he was mentioned in dispatches for gallantry in action that hadn’t taken place yet. He hadn’t seen any action. He was promoted brevet captain for saving a supply convoy from annihilation. He wouldn’t be alive to do it. He was made brevet major for what he did at hand-to-hand fighting at Chapultepec. But he was killed near Vera Cruz a long, long time before Mexico City surrendered. And he was officially killed in Mexico City after its surrender and after Santa Anna had opened all the prisons and turned loose the prisoners to loot and murder,—especially Americans. That was in the original past of which today and now is a development. We were present—we were the cause of his death before any of these things had happened. So Tony and I had changed the past. What could I do but try to change it back?”

Kirk said more irritably still, “All I’ve heard is that you, Sam, swapped papers with a dead man and Ann here says Tony had his time harness switched off. What’s upsetting about either of those things?”

“I meant,” said Sam fiercely, “to take my great-great-grandfather’s place! I meant to stay back there in time and do what the records say he did! If he saved a convoy, I’d do it in his stead. If he fought hand-to-hand at Chapultepec, I’d do that! If he got killed in Mexico City after the surrender, I’d do that too! At least I’d try to keep the past from being changed, and that change from changing other things, and those changing still others, until the change got to here and now and

Heaven knows what the present would become!"

"I can think of things in the present," said Kirk sardonically, "that would be the better for being changed. But you seem to me, Sam, to be trying to make yourself a hero because your great-great-grandfather didn't make it!"

Tony also protested, to Sam, "We took him from the clearing where there were soldiers coming. He could have been killed. We took him along a horse trail where men were waiting to kill him. They did! It's absurd to say that if we hadn't taken him from the clearing he wouldn't have been killed! The odds say he would. The most you can say—"

"No!" insisted Sam. "We changed the past! If my great-great-grandfather was killed before he should have been, it was because we interfered! I—I shouldn't have been born! I shouldn't exist! Maybe I don't! So all I can do is act in his stead and do what it's recorded he did—"

Tech Sergeant Christopher said tentatively, "But if he was killed in Mexico City before he was married, how could he have become your great-great-grandfather?"

Sam's mouth dropped open. Tony said dryly, "Thanks, Sergeant. I think, Sam, you should have somebody look in your family Bible. If you used to exist, and your father and your grandfather and your great-grandfather before you, even though your heroic ancestor didn't come back from the Mexican War, it would seem logical that he'd become your ancestor before he went to war! Doesn't it look that way?"

"Y-yes," said Sam. He made almost hysterical noises. For a moment it seemed that he would giggle. But he said shakily, "Y-yes. I was—too much upset to think of that! But it's true. My—great-grandfather must have been born before my great-great-grandfather was killed. I see it now! I had a—a very horrible feeling that I shouldn't exist. That I never really did. That I was an—an illusion …"

"A very substantial one," observed Tony. "Anyhow that much is settled. You can continue to be alive, Sam. You are not self-contradictory and therefore impossible." He stood up and shook himself. "I'll be glad to get out of this uniform! What's the word about the Wotan?"

"You and Sam," Doug told him, "spent twelve hours in 1847. It's now about four A.M. Saturday morning here. Nothing is happening about the Wotan. Probably nothing will until Monday morning."

"Then I can sleep peacefully," said Tony. He yawned.

"You can!" said Kirk grimly. "The rest of us have work to do."

Tony looked inquiring.

"The Wotan's supposed to be hauled out of the pond," said Kirk. "At night. That's necessary. How will it be done? It has to be gotten bone-dry immediately, in spite of a heavy dew. How will that be done? It has to have a harness put on it, in the dark. Have you any suggestions? A way to fasten the harness has to be worked out that won't need lights. And as a matter of simple precaution, we've got to do some sabotage in case we don't manage to have the Wotan's resting place closed up by a communist-inspired strike."

Tony waved his hand.

"Engineering problems only," he said cheerfully. "You'll do all right!"

He went off to the strictly spartan quarters which were part of the area reserved for those who'd built the Project. Nobody without top clearance ever entered this area. Nothing ever left it without being burned or melted, as the case might be, and definitely unable to give any clue of any sort to anything.

It was far from a luxurious retreat. It was hardly even comfortable. Tony got out of the elaborate uniform which had made him uncomfortable the whole time he'd worn it. He went to bed. And then be couldn't sleep.

Oddly enough, now that he was back, the picture of Vera Cruz in the possession of the invading American Army filled his mind. The Army proper, of course, had marched out ten days before he and Sam entered it. The Army was headed for Mexico City. It left behind a thousand sick and wounded—many sick; not too many wounded—and a totally inadequate garrison to protect them. But it was singular, in the Mexican War, that the Mexican and American people seemed to have no especial desire to exterminate each other. There was a certain self-conscious nobility involved in the affairs of men, which now is lost and to be regretted. There were crimes committed on both sides, of course. But they were regarded as crimes. The pomp and panoply of war represented not wholly hypocritical notions of humanity.

The Mexican garrison of Vera Cruz had been paroled instead of stuffed away in prisoner-of-war camps. Former prisoners waved cordially to their former captors. Two badly needed American regiments, their six-months' enlistments expiring, were gallantly sent home weeks ahead of time because of the approach of the annual epidemic of *vomito,* which was the local name for yellow fever. There was a tendency, however slight, to regard war as a sort of national sport with elaborate rules and regulations. For example, before the war was more than skirmishings along the Rio Grande there had been a private agreement made with General Antonio Lopez de Santa Anna.

At the time he was in exile in Havana, because politics was a form of sport, too. The agreement with him was that he was to be paid a handsome honorarium by the United States, he was to use part of the money to bribe his way into either the presidency or the absolute command of the Mexican Army, and in either position of authority he was to contrive such disasters to Mexican arms as would make the war brief, relatively unbloody, and a complete victory for the United States. It was not an unprecedented deal. But it couldn't be carried out because of a regrettable breach of the rules by an American officer. Arrived in Havana to exchange the gentlemanly assurances which would begin this simplified and human conflict, the officer broke all the rules by having himself driven, in full uniform, in an open carriage, to the residence of Santa Anna.

This unethical action made the agreement impossible. It was a public advertisement that a deal was in the works between Santa Anna and the United States. The people involved could no longer pretend that they didn't know what was going on. So Santa Anna was unable to contract for the betrayal of his country and instead returned to Mexico fired with splendid patriotism, became President, and led his people in a stern and valiant resistance to the American invaders.

There were other oddities in Vera Cruz. As soon as news of its surrender reached the United States, civilians arrived in droves to supply the American soldiers with the necessities of custom a foreign city would not provide. Within two weeks there were American gamblers, reporters, speculators, sutlers, printers, actors and even embalmers zestfully making themselves at home. The printers and reporters immediately started newspapers, the sutlers immediately began to sell whiskey more corrosive than the local beverages, the actors offered melodramas, the gamblers opened gambling houses, and even the embalmers advertised in the new newspapers that they had zinc coffins in stock for anybody who wanted to be shipped home in style.

Tony and Sam had been upon a grim errand when they went into the city. They had the body of an American officer hanging over his horse, to be given proper burial by the Medical Corps, which included this service among its other duties.

Even then, and grim as he felt, Tony had been astounded at the tranquility of the conquered city. It was not a place of hatred. The American soldiers not only refrained from killing and looting citizens, they actually bargained for what they wanted. They were charged extravagant prices, and they paid them. Therefore many local citizens set out to make the most of the invasion. The only sign of actual war was the shortage of horses. The Quartermasters had been pleading for draft horses since the beginning of the war, but they did not come.

When the Army prepared to march inland, horses to pull the supply wagons were starkly necessary. The Quartermasters used the native horses—wiry and skittish animals—but only after they'd requisitioned even the horses of the sutlers, then the horses of the gamblers, and ultimately even the handsome black hearse horses of the embalmers.

These items filled Tony's mind as he tried to go to sleep. But the Time Tunnel had filled his life for a long time now. And Kirk had reported that the dummy missile from the swamp by the shore had come briskly back to the Time Tunnel as soon as its harness and its plating were bone-dry—within two hours. He found himself wrestling with the problem of getting the actual Wotan out of the irrigation pond and bone-dry immediately so it could be moved away in space and time. Ultimately the idea was to make the Wotan never to have been in the pond at all.

He went to sleep eventually, but Sam waked him before he'd had half his sleep out. Sam was a dark silhouette, tense and feverish, in the dim light of the corridor outside Tony's quarters.

"Tony!" said Sam feverishly, "I just persuaded General Osborne to let me fix up the trouble about my great-great-grandfather! If we don't do it the past will be changed from what it was, and the present will turn into nobody-knows-what! It's got to be prevented! Will you help me?"

"How?" asked Tony, not fully awake.

"I'll get the War Department records on my great-great-grandfather. There's a supply convoy whose destruction or capture he's supposed to prevent. We'll have the details and a buzzard flying overhead to check everything as it happens. Naturally the General wants to prevent a supply convoy being destroyed when it's taking supplies to the Army! So I'll be my great-great-grandfather and you'll help me, and we'll fix things up. You'll wear your own harness. Ann can snatch you out of any real trouble. But—you see? If it's destroyed it will change history! Men will be killed who shouldn't be, and that would mean more changes in the future—in what's the future from back there, but here is today and now! Do you see?"

Tony yawned.

"I'm half asleep," he said wearily. "I was enjoying my sleep, and you're spoiling it!"

"But will you help?" demanded Sam desperately. "Tony, we changed the past! We've got to change it back. We've got to!"

"I'm inclined to let sleeping past times lie," said Tony. "I'll promise this much. If it sounds reasonable in the daytime I'll do it. But if you don't let me get back to sleep I won't."

"That's a promise," said Sam agitatedly. "All right, Tony. Go back to

sleep! I'll call you in plenty of time!"

Tony groaned to himself and turned over. He wanted to sleep again. He tried to shut his mind against all speculations and debate. He wanted only to go to sleep once more.

But his eyes popped wide open. Sam had raised a valid question. What would happen if a convoy one Lieutenant Austin Creighton was reported to have saved from destruction—what would happen if there was no Lieutenant Austin Creighton on hand at the critical moment?

It was perfectly true that when a man went into the past and returned to his own time, it was very much like a man visiting another town and returning to his own. What he did in either town or time was exactly as real as a thing done in his own city or his own time period. If somebody came out of the future on a visit, it would be part of the reality of the visited time that somebody from the future had been there. It looked perfectly simple. But—

Tony groaned. The middle of the night, with half one's sleeping still to be done, was no time to become obsessed by a hypothetical question to which there might be no answer. But an answer had to be found! This problem applied even to the Wotan missile in the bottom of an irrigation pond. Tony couldn't dismiss it and he couldn't sleep because he couldn't dismiss it, and he appeared in the morning bleary-eyed and unrefreshed. Kirk greeted him sourly.

"Sam's been raising Cain," said Kirk fretfully. "He wants to take over the whole operation of the Tunnel! And we've got other things to do!"

"Let me have coffee, please," said Tony, "before you pile the woes of the world on my shoulders!"

He got himself coffee. But Kirk didn't wait to tell his troubles. He, Kirk, had to make a new time harness for the Wotan so the Time Tunnel force fields could lift it and carry it away. But how was he to make a harness work on a monstrous mass of tons which had been submerged for weeks in at least ten feet of water? A harness wouldn't work if wetted, or if put on a wetted object. How could it be made to do so? Tony sipped at his coffee.

"There's something to try," he observed. "I thought of it last night after Sam waked me up. If the Wotan had been oiled before it left the Tunnel, it wouldn't have gotten wet when dropped in water."

"Some would rub off when it was dragged out. But—"

"There's a silicone oil," said Tony, "that's used for waterproofing. If you take a wet rag and pour this stuff on it, it wets the cloth. With oil. It displaces water in contact with anything solid. It has a freak surface tension."

"But—"

"I was in a car once," said Tony, "when it ran into an irrigation ditch. We hauled it out, and all the wiring was soaked. The car was one large short circuit. So we got some of this silicone stuff from a friendly neighborhood filling station. We soaked the wiring with it. It replaced the water in the water-wetted insulation of the wires. It oil-insulated everything. So we had another car crank ours with a pair of jumper cables, and the motor started. Water was still dripping from it, but there were no water shorts. It was all silicone-oil insulated. We drove the car away."

Kirk was suddenly disgusted.

"I've seen the stuff! And I didn't think of it!"

"Genius," said Tony kindly, "sometimes consists of remembering what somebody else has already done. I *think* that if you spray a wetted Wotan with this, it'll react like a wetted wire or rag. I *think* it will oil-wet the metal, spreading like the oil it is, only under the Wotan's wetness instead of on top. And the water should drip off right away. We'll carry a big can of it—"

"Don't rub it in!" said Kirk irritably. "That's the trick! I'm going to try it to make sure, but that's the trick!"

He went away. Apparently he told Tech Sergeant Christopher where Tony was. The spectacled tech sergeant came diffidently to find him.

"I'd like to ask your opinion," he said awkwardly. "You see, Doctor Phillips and I have been working on sabotage. We arranged a buzzard-drone to carry small objects, with no wings. While you were asleep we had it in Mexico City of today, among the bulldozers. We got amyl nitrate in the gas tanks of the bulldozers and the tank-truck that fuels them. We put camphor in the tank-truck, too. We got emery in the bearings. We got sand in the gear boxes and acid in the distributors and also in the oil pressure lines. We don't think the bulldozers can work. Doctor Phillips would like to have your comment."

Tony very reflectively finished his cup of coffee. He opened his mouth to speak, and closed it, and then said, "About the only comment that seems to fit is that you've been very industrious. Maybe too industrious. When the operators find out what's happened to their machinery I doubt they'll suspend all work until the machines are torn down and put together again. I'd expect them to put new machines on the job, with boobytraps and armed guards and perhaps national guard units to make sure that no such sabotage is ever done again! But if we watch out for that—"

Tech Sergeant Christopher looked distressed.

"Do you think we overdid it?"

Tony considered again.

"No-o-o. The job you did has a fine enthusiasm about it. It will look like the work of gifted amateurs—which it is. It will probably be credited to left-wing university students. Some of them may even claim it! But I don't think anybody will suspect why it happened. I congratulate you, Sergeant!"

He went to get another cup of coffee. When he came back, the sergeant had gone. Tony drank the coffee as meditatively as before. He began to feel encouraged. The matter of the Wotan seemed to be shaping up plausibly. There was still the matter of Sam's great-great-grandfather to be dealt with, and the actual lifting-out and temporal transportation of the Wotan. But it did look as if there was a fighting chance of achieving even that.

General Osborne was genuinely cooperative now. There was Washington, of course. The only disaster that seemed even possible there, though, might be a desperate action by some informed individual who was credulous only of disaster and not of achievement. Somebody in the know might feel it his duty to prevent even the faintest chance of disaster by briefing the Mexican government. A certain building site in Mexico City, now being cleared and levelled for skyscraper foundations, actually contained a deposit of explosive which could shatter the metropolis and kill most of its inhabitants.

Somebody might inform the Mexican government of that danger. It seemed an abstraction. It seemed wholly unlikely to happen. It seemed just barely conceivable, and Tony didn't worry about it.

But it wasn't an abstraction. It was likely to happen. In fact, it had.

8

THE TENSION in the Tunnel chamber, an hour after Tony's coffee, was more nearly the tension of people waiting for a thing to happen than the agitation of people to whom something had. Actually, they hadn't heard of any unfortunate occurrence from Washington. So far, they were concerned solely with the matter of Sam Creighton's great-great-grandfather. He, of course, was jumpy. In contrast, MacGregor sat at the control desk wearing an air of comfortable, satisfied competence.

It was justified. She'd worked her way through Mexican War records forwarded by Archives. She'd found information and converted it to times and places. She'd used that data to govern the movements of a buzzard drone. In consequence, there was a specific picture on the largest television screen in the Tunnel chamber.

It was a picture of a particular supply train encamped at a certain spot on one particular night on its way to deliver its wagonloads to the United States Army of invasion. Which needed them.

The screen showed the stopped convoy as lighted by first-quarter moonlight and a long line of campfires. They were the wagons described in a certain quill pen report written in 1847. This was the convoy Sam Creighton's great-great-grandfather had saved from destruction, and for which he received a promotion to brevet captain. This was history. It could not be questioned. But Sam Creighton's great-great-grandfather happened to be dead at the time. He'd been killed by bandits or guerrillas near Vera Cruz some months previous. This was fact. Yet Lieutenant Austin Creighton had prevented the capture or destruction of this convoy of badly needed supplies.

It could have had enormously important consequences. The arrival or non-arrival of matériel would change the fighting that went on, and its consequences. The change in consequences might not seem important at the time. Certain junior officers, for example, might get killed instead of other junior officers. Captain Robert E. Lee might get killed instead of Captain Sydney Smith. Quartermaster Ulysses S. Grant instead of Major Martin Scott. Captains Joe Hooker and Pierre Beauregard and Lieutenant Tom Jackson—not yet called "Stonewall"—and Kirby Smith instead of other men. History could be wholly changed by the arrival of non-arrival of this convoy, which in turn would depend on the presence or absence of Lieutenant Austin Creighton, who happened at the time to be dead.

It could be a catastrophe of the worst kind.

The convoy had straggled badly during the day's march, but at sundown its wagons were gathered into hollow squares and the horses turned into the enclosures so formed. Everything was now quiet and still. The convoy guards were not in evidence. Men kept the campfires burning, but that was all.

Nothing happened. In the briefest of surveys during the day, MacGregor had trailed the convoy along this alleged highway. From time to time a soaring and obviously negligible buzzard had floated the length of the line of vehicles and gone away again without the slightest attention being paid to it. The road had been intolerably bad. The horses were not fitted for draft-animal use. MacGregor in the Tunnel chamber had seen teams go into hysterical rebellion, kicking and rearing and squealing until they were hopelessly entangled in their lines and had to wait, shivering, to be straightened out again. Wagons had bogged down and had to be pulled out by main strength with infantrymen of the convoy guard hauling on the ropes prepared for such use.

Now it was after nightfall. The convoy was halted for the night. There was no activity anywhere. The men of the convoy guard were exhausted. Some of them—not many—had ferreted out small places where they could lie on bales and bags and parcels of the wagons' cargoes. Most simply lay down out of sight. There was no attempt to set up tents. It would take hours to get started, come morning, if tents had to be taken down and packed.

MacGregor said severely, "We can't have made a mistake! This is certainly the date and the wagon train! But I am afraid the Army records were very carelessly kept. They specifically said your great-great-grandfather, Sam, was promoted to brevet captain for his invaluable services in preventing the loss of this convoy! And tonight! But there's no sign of trouble!"

Sam moved uneasily. He wore the impressive uniform he'd worn much earlier in this time period, near a dummy missile and a clearing in the jungle and later in the city of Vera Cruz. Tony was rebelliously clad in the uniform he'd worn on that journey Out Yonder, too.

General Osborne cleared his throat as if to say something impressive. He changed his mind and was silent. Tech Sergeant Christopher watched MacGregor and the television screen. Presently he said apologetically, "I hate to ask, but—could you look over that way?"

He pointed. MacGregor moved a control and the wagon encampment as seen from overhead slid swiftly off the screen and the vagueness of a partly lit landscape took its place. Indefinite forms floated across the screen. Suddenly, a deeper darkness.

"There!" said the sergeant urgently. "Right there! Could you go lower?"

The camera-carrying buzzard stopped in midair. It hung motionless. Then it began a slow and gradual descent. Motion became visible below. It was human figures, stirring about. Beyond there were horses. They snorted and stamped, and there were many more men. There was a momentary flicker of light in one place. It was the first-quarter moon, momentarily reflected to the buzzard's camera lens. It was such a glimmer as had made the sergeant ask apologetically for the movement of the drone. The total image proved the presence of a strong body of soldiers huddled in a depression of the ground until the right moment for a surprise attack arrived.

General Osborne said sharply, "At least two companies of dragoons and probably three hundred infantry! They're not waiting down there without reason! The convoy has to be warned!"

That was pure military instinct. The Mexican War was four or five generations finished, but General Osborne could not help but be moved to warn American troops of danger.

Sam Creighton drew a deep breath. He looked at Tony. Tony scowled and rose. He adjusted the uniform that seemed to have been designed for a maximum of military unsuitability. General Osborne said with a sudden heaviness, "I acknowledge that this particular enterprise cannot be justified by ordinary reasoning. It is based on premises not usually accepted. But since Mr. Creighton has volunteered, and Mr. Newman with him, I can find no reason to forbid what they are about to do."

MacGregor sniffed. She shifted some controls. The dim, dark image on the television screen changed wildly. The drone whose camera-pickup it recorded was heading skyward like a rocket. Kirk and Doug moved the traveller as near the Tunnel mouth as was at all discreet. They waited. MacGregor said crisply, "I'm cutting off the power."

Only a drone was using it at the moment. The Tunnel chamber rocked with the sound of thunder. The lights flared and returned to normal. The flickering lambent flame died from the beams and busbars of the Tunnel. There was no longer a resonant humming sound, of energy flowing splendidly into the Tunnel. Far, far away a drone-buzzard hurtled skyward toward cold, incurious stars, tumbling as it rose through thin, thin air.

Kirk and Doug lifted the traveller and moved into the Tunnel with it. They put it down. Tony and Sam Creighton passed them, going in as Doug and Kirk came out. There was no need for words. Everybody knew the things to be done. There wasn't a lost instant.

Tony climbed into the traveller. Sam followed him. They settled

down. Doug stood well back. He plucked at Kirk's sleeve and he moved back, too. General Osborne watched in an extreme and overacted detachment. Tony switched on the time-harness around the traveller. He said, "Okay, Ann! We're set!"

He and Sam almost filled what small space there was in the traveller. They ducked their heads. MacGregor threw switches. Again a thunderclap of sound, dimmed lights, the roaring hum of power in incredible quantity rushing to do its work.

It was a horrible sensation in the traveller, accelerating in time and space together. One was torn at. One's body seemed to be dragged in innumerable directions. There was an agonized feeling as if all one's blood was being forced into one's skull to burst it. Then, suddenly, it was over. Tony saw directly, with his eyes, the campfires and the firelight that only the buzzard's television camera had shown before.

Tony heard MacGregor say, *"Doug, you land the traveller! I have to pick up the drone again."*

There was tenseness in the Tunnel chamber now. Tony and Sam were Out Yonder. Just as in the operation of the dummy missile, from which they'd learned so much, they were carried together to a destination determined by the Tunnel's controls. They wore, under their elaborate uniforms, individual time-harnesses by which they could communicate with the Tunnel and with each other, and by which they could be snatched back to the Tunnel at any instant their disappearance from anywhere or anywhen Out Yonder seemed wise.

But they simply and suddenly found themselves in the traveller, in the night, floating in midair below innumerable stars and a first-quarter moon. The traveller was preposterous as a thing to be suspended between earth and sky, but it floated there with a complacent implausibility. Nothing like that should fly or float or do whatever it was doing. But it did. It was supported by force fields from the Tunnel now being handled by Doug. His voice came anxiously through the bone-conductor receiver so nearly invisible back of Tony's ear.

"All okay?" asked Doug uneasily. *"It wouldn't be a good thing if I let the traveller get upside down!"*

"You're so right!" said Tony grimly. "Don't try anything fancy. Just set us down on the ground!"

The traveller settled. Tony heard MacGregor again.

"I've got to find the buzzard! It's up there somewhere, maybe still rising from the momentum I gave it! But I've got to link to it coming down! We can't have a buzzard found and examined!"

It wouldn't have meant a thing in the year 1847. Nobody finding its crushed body would be apt, even, to pick it up. People didn't look at

buzzards, living or dead.

But then the traveller landed with a considerable bump. Tony got out, felt for his five-shooter revolver, and said curtly, “Come along, Sam. You know what we’ve got to do.”

They advanced toward the line of campfires. They reached the first of the hollow squares formed by the wagons. They were not challenged. The Mexican War was conducted in a fashion unthinkable to later generations. The duty of sentries was well enough known, but it was largely theory. A not unusual practice was shown by the fact that Tony and Sam walked into an American military encampment without giving any account of themselves. A soldier who probably should have been a sentry was warming himself at one of the campfires. He saw their uniforms and saluted sloppily.

“Where’s the commanding officer?” demanded Tony.

The presumed sentry pointed. Then he asked curiously, “Where’d you-all come from?”

“We came,” said Tony acidly, “through a line of Mexican soldiers that’s forming about this camp to attack and destroy it. Go get your sergeant and bring him here. Lieutenant Creighton will give him orders. I’ll find your commanding officer.”

He marched out of the bright light of the first fire into the light of the next along the line. He passed the first square of wagons. The second. He found another sentry. He barked at him. This sentry produced a noncommissioned officer to whom Tony gave specific instructions. The manners and customs of the military vary remarkably. In 1847 the United States Army was almost wholly and sometimes disastrously amateur. Regiments for the Mexican War had been raised for six-month enlistments. Some had been made for three! Discipline couldn’t be instilled or military competence attained in that length of time. Tony bluffed, and was obeyed. He went on, leaving commands and the name of Lieutenant Creighton behind him.

He found the convoy commander, a Regular officer white-bearded, and ranking as major only because of the enormous expansion of the army to an awe-inspiring twenty-odd thousand men, of which not less than thirteen thousand were in Mexico at this moment.

To the convoy commander Tony stated flatly that he and Lieutenant Creighton, on an official journey, had found signs of Mexican troops ahead. They’d found further evidences of unpleasant intentions. So they’d come through the Mexican lines on foot. Lieutenant Creighton was giving orders for the meeting of the attack. With permission he, Tony, would do the same.

The convoy commander listened agitatedly. He protested that he was ill. It was true. He had no qualified combat officers in the convoy.

It was practically normal operational procedure. At least one colonel paraded his regiment for the first time—it was the first time all of it had ever been in one place, incidentally—bellowed two orders, and dropped dead of a heart attack from the unprecedented exertion.

Tony said confidentially that he and Lieutenant Creighton would take charge. Lieutenant Creighton, he added untruthfully, was a nephew of the Secretary for War and was quite competent to conduct the coming action.

He went out and was instantly busy. He gathered noncoms and gave them orders. The convoy guard would quietly be awakened, shaken, warned, and half of it divided among the wagons with adequate ammunition. The teamsters would string lines between the wagon squares. Men would be detailed to keep the fires burning brightly. The other half of the troopers would be gathered in two bodies beyond the firelight. When the action began they would—

MacGregor's voice, relieved, *"I caught the drone, Sam and Tony! Now I'll see what the Mexicans are doing!"*

There was no need to answer. Tony organized a good striking force of infantry at one end of the encampment. His earphone brought him Sam's orders, similarly intended, at the other end. No more detailed communication was needed. The preparations for defense went swiftly ahead because both Sam and Tony knew what had to be done. They knew what was going to happen. And very shortly they knew when.

General Osborne's voice boomed in the earphone. *"The horses are dividing into two groups. The idea is that they'll charge through the camp in two places, cut the camp into three pieces, and then the infantry will come in, running, to mop up what's left. Very neatly planned!"*

"Sam," said Tony to his lapel microphone, "I'm sending some extra men to help you. Get 'em all in the dark. Tell every man to check the priming of his musket. You and I might forget that!"

It was, however, important. The American army was still equipped with flintlock muskets. Professional soldiers objected that the new-fangled percussion caps were so small that they might be dropped to the ground in the heat of battle, when there'd be no time to pick them up again. Professional soldiers preferred flintlocks, which only missed fire three times in ten shots under battle conditions.

MacGregor's voice, *"The dragoons are lining up to charge, Tony!"*

Tony sent a man running along the line of fires. The men tending them should pile them high with firewood and then get into the nearest wagons to help in the fighting.

Then there was silence. It was a singularly peaceful night. Nocturnal insects sang. Occasional nightbirds made appropriate noises. The horses stamped uneasily in their wagon-body enclosures. The receiver

of Tony's time-harness made sounds.

"They're starting, Tony! Do take care of yourselves!"

Sam commented grimly, via microphone and the Tunnel, *"Nothing's going to happen to me tonight! I'm to be killed in Mexico City!"*

There was nothing to say to that. A buzzard soared overhead in the night. Firelight shone faintly on its dark body and outstretched wings. It went away into the darkness. Nobody noticed. There began a very faint rumbling noise. It moved. It came nearer. It was the sound of two companies of dragoons, armed with sabres and dragoon-pistols, riding toward the supply column at an easy trot, then a faster one, and then at a furious gallop. There were other sounds off in the night. Officers shouted commands in Spanish. Three companies of infantry broke into a run.

It should have been a complete and perfect surprise. The firelight seemed perfectly designed for the purposes of the attackers. It guided the horsemen. It directed the running infantry. It revealed the wagons plainly.

But it did not show the ropes stretched between the wagon squares. It did not show the convoy guards, who seemed to be sleeping—and most of whom had been asleep—awake and alert and fully ready for what was to happen. It did not show the teamsters and wagon men armed with muskets to add their fire to that of the official combat troops.

The dragoons charged splendidly. They came racing, rushing, shouting into the firelight, sabres waving and pistols ready. They made a splendid spectacle as they charged into the silent camp. With yells, the infantry followed them.

Then the dragoons hit the stretched ropes. Horses piled up in crazy, kicking heaps. Then muskets opened on the frantic mounds of tumbled horses and men. There was a melee of horses in all postures, kicking frantically even on their backs. Mingled with them were flung-off men, bewildered and trapped. The dragoons practically did not strike a blow at the camp's defenders. They'd expected to ride over sleeping men wrapped in blankets on the ground. The found themselves mixed in with crazy, frantic horses while storms of musket bullets poured into them.

Then the infantry arrived. They advanced in masses. But the melees of horseflesh and scrambling men stopped them. The gunfire from the wagons turned to them. And the firelight smote on them, but the men in the wagons had that glare behind them. The infantrymen were practically sitting ducks.

And then Tony from one end of the camp and Sam, from the other, hit them on the flanks with yelling, shooting men behind them. The

initiative was not with the Mexicans for one instant after their dragoons piled up in heaps. Two ferocious counterattacks, properly timed, settled the whole affair.

It lasted only for minutes. Then the night swallowed fleeing Mexicans, whose reaction was that of shock amounting to superstitious terror. It was literally a matter of minutes only before the shooting stopped. Sam came looking for Tony. Tony took him to the white-bearded major formally in command. He was genuinely a sick man and therefore a small amount of diplomacy went a long way.

He introduced Sam as Lieutenant Austin Creighton, and he dropped the names of important people he said would be glad to hear that their relative had had the honor of fighting under this particular major in so successful an action. These statements were not true, but the whiskered major was too much disturbed anyhow to question anything. He saw approval for himself in influential quarters if he reported the behavior of Lieutenant Austin Creighton in a fashion to earn him a promotion.

They left the major's wagon. Tony took two horses of those the dragoons had ridden and which seemed unharmed. Tony and Sam mounted. They rode out of the convoy camp.

Half a mile away MacGregor spoke to both of them at once.

"Doug's moving the traveller to pick you up. Everything's all right. Watch out for him."

And minutes later there was a rectangular dark patch against the faintly moonlit sky. It descended. It was the traveller. Tony and Sam stripped off the dragoon saddles and bridles and sent the horses away with slaps on their haunches. They got into the traveller. It lifted. Seconds later something bumped into it in midair. It was an acutely uncomfortable sensation. It felt uncanny. But MacGregor said vexedly, *"I didn't mean to bump you with the buzzard. But we might as well bring it back at the same time you come."*

And then, as Tony tucked the buzzard away, there was the horrible feeling of acceleration in four dimensions at once and the especially daunting feeling that one's skull was about to burst.

But then there were the wildly improbable bent shapes of the metal rods and bars which were the Time Tunnel. They were back in the Tunnel chamber, and in Project Tic-Toc. There was a roaring, rolling sound of thunder dying away all around them.

Tony got out of the traveller. He didn't feel good. He'd led a charge of hilariously confident American soldiers into a mass of confused and bewildered Mexican infantry. The confusion, the screaming of wounded horses, the explosions of muskets practically in his face—all these things had been necessary. The result of the fighting was

something probably to be thankful for. It kept recorded events and their consequences in line with reality. Or so one hoped, anyhow.

But Tony did not feel at ease with himself. For good and sufficient reason he'd done what he'd done. But it amounted to fighting and possibly killing men for whom he felt no enmity, for a cause long victorious and which nobody thought about any more. It did appear that in getting killed before the recorded date, Sam's great-great-grandfather had done more than stretch the elasticity of events. It was possible that something had snapped, and it was right and proper to try to help such a fracture of reality to heal itself. Tony hoped forlornly that something had been accomplished. But, unquestionably he'd been in mortal combat with men who were total strangers, in a war that had lost all meaning. And he was very much afraid that he'd killed somebody who shouldn't have been killed. He didn't feel good at all.

He went to his quarters and got out of his antique uniform. He came back to the Tunnel chamber, to be told by Christopher that he was wanted in Doug's office.

Doug was there, pacing up and down. Tony turned and saw General Osborne sitting in Doug's desk chair. MacGregor sat in a corner, wearing an expression which was the absolute ultimate of indignation. But it was General Osborne who was startling. His face was practically gray. There were deep lines in it. His air was that of the calmness of irremediable despair.

"Mr. Newton," said the General, in a voice that despite his efforts was thin and racked, "I seem to have an especial gift for doing the wrong thing. You know that I spoiled the Wotan detour demonstration, and you know of the consequences of my doing what I did. But there is more. To prepare for the tests I intended, you may remember that I had gotten, in advance, an independent set of course-computations for the Wotan. It seems to have been very much of a mistake. I got them from a mathematician with the highest possible security clearance. He had to be given data so he could do the computation. Then he was called on to compute the results of my blundering. He determined that the Wotan was exactly on course when it crashed. But he did not stop with that arithmetic only."

Tony stared. He'd been gloomy but not apprehensive. He disliked what he'd done, but it had been necessary. But the General was in a depressed state of another kind entirely.

"What happened?"

"The mathematician," said the General bitterly, "is a man with a conscience and with scruples. He calculated what would happen if the Wotan were detonated by a bulldozer. We—the United States—had

brought that possibility into being. We hadn't told the Mexicans about it. He considered that they should be told. So he told them!"

Tony found himself gazing at the General in blank astonishment.

"Having done so," said the General more bitterly still, "he told the proper authorities what he'd done. I do not understand how a man's conscience can make him ready to betray his country, but that is what has happened. So the Mexicans should now be aware that the Wotan is in the pond they're about to bulldoze out of existence, and that in doing so they can bulldoze their city out of existence with the pond."

Tony swallowed.

"That means—that means the whole world will know! That the whole world will hate us for having the Tunnel—and every one will try to duplicate it! What's the Washington reaction?"

"Appropriate," said the General drearily. "I'm to be relieved. A group of other officers is to come, take over, and remove switches, cut circuits, and otherwise make the Tunnel incapable of being operated. Then it's possible that a report on the order of the Smyth report on atomic energy will be issued, to protest our good intentions and innocent behavior. But the rest of the world will instantly try to get it for themselves—like the atom bomb. But it will be worse than the bomb! The Time Tunnel could destroy civilization by changing the past and hence the present that's built on the past and the future to come of it. If other nations get Tunnels, that will happen!"

"They'll change the past if it can be changed," agreed Tony grimly. "There's no question about it. Some fool—"

"Doctor Phillips," said the General sardonically, "is now trying to figure out a way to use the Tunnel to change the past so that it, itself, will never have been dreamed of to be built—and change the past!"

Tony's expression was wry where the General's was bitter. Now he looked up suddenly.

"We think a lot alike," he observed, in a new voice entirely. "Something's just occurred to me. It is possible—I'd say it was even likely—that the Mexicans and all who hear about the Tunnel will react as you did. With proof, you've changed your mind. But the Mexicans won't get proof if we can help it!"

General Osborne's expression did not change. Kirk wasn't in the room. Sam was somewhere else. But MacGregor stirred suddenly. She turned and regarded Tony with warm, approving eyes.

"Doug would have thought of that in just minutes more!" she said with conviction. "Of course he would! And all we need is to speed up our schedule—"

Doug said with utter hopelessness, "What's this, Ann? What can

happen? What could happen that would do any good? They're going to dismantle the Tunnel! Make it unworkable! What—"

MacGregor said firmly, "It's only seconds from your mind. You'd have thought of it if Tony hadn't. If the Mexicans have been told about the Wotan and the Tunnel—"

She told him in exactly four words what would happen. It was the most obvious thing in the world.

Doug was just beginning to grasp the idea, and General Osborne's eyes were just showing the astonishment that had to come before hope in a matter like this, when a telephone on Doug's desk rang stridently. Doug picked it up and spoke into it. He handed it wordlessly to the General.

There was silence after the General said "Osborne speaking." He listened. His lips compressed. His free hand, not holding the telephone, clenched savagely into a fist. He said sharply, "I understand! I was notified before. I understand that a board of officers is on the way here, to take over my authority."

A pause. A small muttering sound from the telephone.

"Nevertheless," said the General icily, "there is something that should be pointed out. This whole abominable situation came about because when I was told about the Tunnel and what it can do, I didn't believe it!"

Silence, save for very tiny sounds from the phone.

"Did you? Did you believe it when you were told that there was a device that could do detour-bombing?" demanded the General savagely. "Did anybody else, before there was evidence? Do you think the Mexican government is going to accept the word of somebody they'd consider a crackpot instantly he opened his mouth?"

Another pause. The General said, "They won't believe it! I respectfully"—somehow there was a little less than absolute respect in his tone—"I respectfully urge that this fact be considered in any measures taken with regard to the Time Tunnel, because without proof the Mexicans"—and again he repeated the four words in which MacGregor had stated the most obvious thing in the world—"they won't believe it!"

But when he put down the telephone he said savagely, "The take-over group of officers will be on the way in an hour. They'll dismantle the Tunnel so it can't be worked—and then they'll consider what has to be done!" He stared from one to another of the three other people in the office. "How long have we got, in our time, before the Wotan is uncovered or exploded? And what can we do with that time?"

9

THE MOST eccentric item in the preparations against the impending events was a bag of sandwiches, thoughtfully prepared by MacGregor. But Tony, with unfeigned displeasure, again put on the uniform of an officer in the Volunteers of the United States Army of the period of the Mexican War. Kirk and Tech Sergeant Christopher labored furiously to complete a new time-harness for the Wotan. It was nearly complete, but it could be a near thing. They worked frantically to get it finished.

Sam pored with a desperate thoroughness over reports of the Battle of Chapultepec as facsimiles of ancient records pictured it, together with details of incidents of the occupation of Mexico City. He knew exactly where five hundred of Worth's men, with the Fourth Regiment, were given only token help from the artillery—ten shots each from two twenty-four-pounders—before they were flung at the low stone buildings of El Molino del Rey at the foot of Chapultepec. They were blasted by unharmed guns and unintimidated infantry, and lost ten out of thirteen officers and half the enlisted men in a matter of minutes. Sam refreshed his memory of this and associated events, and confirmed the opinion of the survivors that Worth wanted the glory of capturing those defenses with the bayonet, and had prevented adequate artillery preparation for the sake of fame. He didn't get it.

Sam also noted again the history of the San Patricio artillery unit in the Mexican army, formed mostly of Irish deserters from the American. They'd fought passionately against another unit, Dominguez's "Spy Company," which was a United States unit formed of deserters from the Mexican army. Eighty-four of the San Patricio unit had been captured, and on the day of the Battle of Chapultepec the last twenty-nine of those not let off with floggings were to be hanged. It was a curiously pathetic tale.

Sam reread the accounts of the council of war at which the plan of the final, concerted assault on Chapultepec was made. Captain Robert E. Lee had made hazardous scouting excursions behind the Mexican lines and had definite ideas where the attack should be mounted. He was overruled. Colonel Joseph Hooker had another view. There were many opinions, but the plan finally adopted was that of the youngest man of the war council—his name was Beauregard—backed by the politically appointed general, Franklin Pierce. Sam Creighton absorbed this information too. And more.

Tony, re-uniformed, conferred with Tech Sergeant Christopher

while the spectacled noncom worked feverishly with Kirk at the almost complete harness for the Wotan. It looked to Tony as if those who'd built the Tunnel would be especially and firmly prevented from having any access to it. But the tech sergeant was not publicly known to have done anything disapproved of by the hindsight of high authority. He'd been assigned to duty at Project Tic-Toc, he'd obeyed the orders of General Osborne, and he was too far down the scale of military rankings to be considered. So Tony made elaborate arrangements. The sergeant was not to stick his neck out unless it was necessary. But if all the builders of the Tunnel excepting only Tony and Sam Creighton—if all the builders of the Tunnel were forbidden access to it, Tech Sergeant Christopher would lay himself open to extreme penalties out of loyalty and patriotism to and for the United States.

General Osborne made the rounds of the whole Project Tic-Toc, gruffly informing the few guards and fewer men of the maintenance crew that their jobs were coming to an end. MacGregor put the bag of sandwiches in the railed platform which was the traveller. Kirk and Tech Sergeant Christopher finished their task gloriously, and had time to fold the Wotan's new harness with infinite care so it would come unfolded without trouble. They added a five-gallon can of the special silicone-oil compound whose freak surface tension had proved to produce desirable results. A tarpaulin went over the traveller and it was put carelessly aside. Nobody in his right mind would have suspected it of the ability to travel through space and time together, to carry cargoes, or to carry objects and/or persons nearly a century and a half of time and an as yet unknown distance in space. The packed traveller looked like a receptable for oddments, with oddments thrown in it.

The telephone bell in the chamber rang just as everything seemed precariously complete. Doug answered it. He turned from it to the others.

"The armed forces commission has arrived," he said. "To take over. They haven't been let inside yet. This is a call from one of the guards asking instructions."

The General said angrily, "Tell them to stall. Doctor Phillips, you go and see them past the checkpoints. Take them to your office and say that I will be there shortly."

Doug said, "Good luck!" to Tony and Sam. He looked subdued. He left the chamber.

The General said harshly, "Mr. Newman and Mr. Creighton, you are in trouble, which is my fault. You are headed for more trouble, of your own will but still through my fault. I offer my apology and my

honest regret that you and not I have to try to minimize the damage I've done. Will you shake hands?"

Tony was embarrassed. Sam shook hands. MacGregor said crisply, "I'll have to send you separately by your own personal harnesses, Tony and Sam, because the traveller's loaded."

Sam Creighton went into the Tunnel, now bare bars of metal. He stood at the dispatching point. At this last instant it occurred to Tony that he didn't especially like Sam's expression. It was peculiar. But before he could speak MacGregor counted, "Five, four, three, two, one!"

Thunder roared. Lights dimmed. There was a humming sound like a shout. Then the Tunnel's metal framework glowed faintly, and was empty. When an image should have formed on a television screen, Sam's voice boomed from a speaker.

"I'm here," he said curtly. *"I've cut off my camera."*

Tony interpreted this as an act he meant to make a habit of, so that when the officer's commission had control of the Tunnel, they couldn't see, to help link the Tunnel's force-fields to his harness and so snatch him back to Tic-Toc. That was Tony's impression. It was mistaken. MacGregor said briskly, "Very well, Sam. I'm cutting off the Tunnel now to send Tony to join you."

Thunder. Lights grew bright. A humming noise, which one ceased to notice while the Tunnel was operating, made itself known when it stopped.

"I think," said Tony, "that I'll leave off my camera too. I can always tell when the Tunnel's turned on. From time to time I'll give evidence that I'm still alive and kicking. Out Yonder, and so will Sam. That ought to cancel any idea of dismantling the Tunnel. You can point out to the new gang that if Sam and I are marooned by the disabling of the Tunnel, we'll simply have to invent telephones and machine guns and electric lights in order to earn a living in the past. They can figure out for themselves whether that would change the past, and hence the present, and whether they want it to happen. Meanwhile Sam and I take care of the Wotan. We'll come back when it's attended to, as arranged."

Standing in the dispatching spot of the Tunnel, he nodded to MacGregor. She threw a switch. There was the usual clap of thunder and the usual anguish of time travelling, which lasted only four heartbeats.

Then Tony found himself standing in the open air. It was very early morning, very close to sunrise. The overall look of everything was familiar. He knew that this was September 12, 1847. He'd seen this valley on a full-color television screen in the Tunnel chamber. He'd

seen it as earlier in this year when the Wotan was found where it was landed, and once when he saw Mexican soldiers on the way to the battle of Cerro Gordo, accompanied by the troopers' wives and children. He'd also seen it as a modern city of a million inhabitants standing in the valley near his present position.

This was the Valley of Mexico, with five volcanic cones rising from the flat valley floor itself, and with innumerable mountains at the horizon all around.

He saw tents, very tidily arranged in rows. He saw guns—artillery—doing nothing in particular. But he also saw expanding balls of white smoke a long way off. They were at the top of a two-hundred-foot hill close by the city. Cannon were firing there, from the Hill of the Grasshoppers, Chapultepec. He knew the cannon had a range of two miles or less. There were troops marching in close order, and in Tony's own time for marching men to show themselves so openly on a battlefield would have brought storms of high-explosive shell to teach them the virtue of invisibility. But here and now guns could fire only so far, and with only so much of accuracy, and they exposed their own exact positions with every cloud of powder-smoke they loosed.

"I've arrived," said Tony to his lapel microphone. "But I don't see Sam."

Sam was not in sight. Tony frowned. MacGregor had certainly intended to land them within a hundred yards of each other. Where Tony stood there was clear rolling ground for at least that distance. But there was no Sam.

Then Sam's voice came into the earphone behind his right ear.

"Tony," said Sam brittlely, *"Don't try to find me! I know what the Army reports say I did today and tomorrow. I'm going to do those things. I have to! To keep the past from being changed! I'll meet you at the cathedral the night after the city surrenders. You'll need me there. I'm to be killed fighting a looting party of the prisoners Santa Anna is going to turn loose before he runs."*

There was a click in the earphone. Sam had turned off his harness altogether. Then Tony heard MacGregor wailing, *"Sam! Don't do that! It's dangerous! You'll be killed …"*

There was silence again. MacGregor wailed once more, *"Tony! Did you hear that? Sam's gone off by himself to be his great-great-grandfather!"*

And then she said in a different tone altogether, *"The people—the new people are coming in—"*

Tony knew, somehow, that the Tunnel's power had been cut off. He was left in mid-September in the year 1847 on a hillside overlooking the Valley of Mexico. Presently he realized that he was in the middle

of a battle. Its progress and its end would, naturally, seem to him preordained, because he was born a hundred years after it ended. Sam Creighton was somewhere on the way to the fiercest part of the fighting. Where Tony was, it did not seem particularly deadly. The booming cannon seemed very deliberate and far away. There was no infantry action near enough for him to hear musketry. The landscape seemed wholly peaceful. The guns actually sounded as innocent as so many salutes. Nothing of any significance seemed to be going on at all.

But Tony was inclined to grind his teeth. It was true that Sam's great-great-grandfather was recorded as having distinguished himself in preventing the destruction of a supply convoy earlier in this same month, and also today at Chapultepec. It was equally clear that he and Sam, together, had made it appear that Sam's progenitor earned the first distinction even though he'd never gotten as far as Vera Cruz before death met him on a jungle trail. The records of the future said that Austin Creighton had distinguished himself in hand-to-hand combat with a giant Mexican major in Chapultepec. Lieutenant Austin Creighton wouldn't. He was dead. But Sam was obsessed with the idea that he must do the things his ancestor was credited with. He had a crazy belief that nothing could happen to him until he had done them. He had a crazier conviction that he was going to be killed in a fight with looters in Mexico City the night after its capture. All these convictions would lead him to a recklessness that could only cost him his life. It was insane!

Tony went to the nearest artillery emplacement. He wore an officer's uniform. In 1847 nobody would question that rank or any mission he might say was his. He asked waiting artillerymen if they knew where Pillows' volunteer division might be. It was General Pillows who had recommended Lieutenant Austin Creighton for a second promotion in five weeks. He got directions. He considered that Sam had probably asked exactly the same question a little while before. He set out to overtake him.

It was a long way. There was something like an artillery duel going on at his actual destination. He knew that Chapultepec had been pounded all night long last night—the night of September 11th—and that two Volunteer divisions would open the battle plan by an attack on it today. Sam would be exerting himself to the utmost to share in the attack and its consequences. Tony was savagely determined to keep him from it.

But he didn't get there in time. Above the rumbling roar of cannon he heard the wild whoops with which the two Volunteer divisions, Pillows' and Quitman's, went into action. They started up the steep hill. Tony was running then. He found himself passing through rank

after rank of American Regulars, waiting until time for them to join the fight. They were Worth's men, who'd lost a quarter of their number recently but would fight grimly to the last man while bitterly disliking that commanding officer. Tony panted, as he came up to them, "Pillows' men! Where—"

Men pointed ahead impassively. He went stumbling on. Now the sound of cannon was a continuing thunder. Tony heard thin noises which were men making an outcry of some sort, but he'd never heard men making such noises before. He heard no bullets. He saw no dead men. Here and there he could see slowly moving masses of gunpowder-smoke from the guns. But that was all. In his absurd frock-coat uniform Tony went plodding and pelting and struggling onward, panting for breath and trying to strain his eyes for some sight of Sam Creighton.

The ground slanted more steeply, and levelled out, and grew steeper still. There were cypresses of incredible size, sixteen and eighteen feet in diameter. And here, abruptly, there was a cliff that had to be climbed. Here there were men, and their muskets boomed uselessly, and bullets made snapping noises as they crashed through foliage and sometimes branches. A messenger went downhill to ask for reinforcements, but even more urgently for the scaling-ladders that had been made with great care for just this situation and place. But nobody'd remembered to bring them. So the Volunteers found what cover they could and waited for the ladders and more men.

The ladders came, but instead of men light batteries came trotting briskly to point-blank range and began to shell the guns and men at the top of the cliff who were pouring in a deadly fire upon—among others—Tony Newman.

Later he'd find a long tear in the skirts of his uniform coat, which must have been made by a musketball coming at him from almost directly overhead. But at the time it happened he was making a raging, infuriated search for Sam, who it seemed to Tony put the military record of a forgotten ancestor in a forgotten war, ahead of the necessities of the Time Tunnel.

Tony was among the climbers when the ladders came. Some—many—of the climbers dropped from the ladders on the way up. But more went over the edge of the cliff in a surge of infuriated men who had seen their comrades killed beside them. Tony went forward with the rest. They seemed a horde, once the way for more to join them was secure. There were not so many shots, here on the top of the hill. Men fought with clubbed guns or bayonets. Tony saw everything in that fight, but not Sam Creighton. He even witnessed the capture of the Military College where officers for the Mexican army were trained.

The student officers, ranging from ten years old to nineteen, refused to evacuate their college without fighting. And they did fight. Tony saw a boy of thirteen in uniform. Dead. A boy of fifteen. He saw the last of them continuing his hopeless fight at the highest rooftop tower of the college buildings. He fought to the last instant, when he could have saved his life by surrendering. He was a very brave and gallant young man.

Tony saw this, and suddenly remembered what was waiting in the village of Mixcoac for the result of this fighting, two miles away. He knew that there were supply wagons in line, side by side under a scaffolding. In the wagons there were twenty-nine survivors of the San Patricio artillery unit formed of mostly Irish deserters of the American army. They had been so ill-advised as to be taken prisoner, in the uniform of the enemy, in battle against United States soldiers who had been their comrades.

Those twenty-nine men stood in the wagons with ropes around their necks, their arms pinioned, their feet bound fast. Their eyes were fixed upon the hill of Chapultepec. The Colonel Harney in charge of their execution had told them that they would die when the flag they'd betrayed and the comrades they'd disgraced capture Chapultepec. He was a stern man. He meant it.

Tony, on Chapultepec's top, heard crazy cheering all around him. Men looked up and waved their hats and shouted like madmen. The eagle-and-serpent flag of Mexico came down from the flagstaff. The red-and-white stripes of the American flag went up. Men shouted and howled in triumph. It meant that the capture of Mexico City was the same as accomplished.

But Tony couldn't cheer. He hadn't found Sam, and at this moment he felt his throat working. He knew what was happening at Mixcoac. When the red-and-white-and-blue flag spread out in the wind over Chapultepec in token of victory, wherever it could be seen men cheered themselves hoarse. Gunners in action and infantry in reserve, walking wounded and carried wounded and even dying men, all cheered. The Americans who happened to be in Mixcoac cheered too. But the strangest of the cheering was the wavering, unsteady cheer that went up from the bound men in the supply wagons, two miles from Chapultepec.

They cheered too. Shrilly, they cheered the flag they'd betrayed and the comrades they'd deserted. Nobody knows why, but they did.

Then the supply wagons pulled away from under their feet. The nooses tightened. They hung swinging in the plaza of a tiny Mexican village.

But Tony still didn't find Sam. He actually saw a gigantic Mexican

major with his sword still in his hand, dead in the gateway of one of the two highways from the top of the hill of the Grasshoppers down to Mexico City proper. He'd tried against all sanity to hold that gate against the Americans who'd conquered Chapultepec. And Sam Creighton had fought him, sword to sword, in so magnificent an evenly matched duel that American soldiers did not interfere. Some even stood aside and watched appreciatively.

When Tony came upon the dead major, Sam had gone on toward the city. There was more fighting on ahead. Tony trailed with the men he'd necessarily fought beside. He'd need Sam. There was still the Wotan missile to be gotten up, if the commission of officers at Project Tic-Toc hadn't carried out their orders to dismantle the Tunnel. Sam had to be found and stopped from his obsessed drive toward suicide. There had to be a scouting of the surroundings of the cathedral, and then means for getting into the garden where the Wotan lay. And all these would be useless if the Tunnel had been made unusable, even though Tony and Sam were Out Yonder. They'd had themselves shifted out precisely to prevent that disablement, which would make the removal of the Wotan impossible.

A rush of guns and men enveloped Tony. There was the San Cosme *garita*—the gate of the outermost suburb in this direction. Cannon opened upon the Americans coming down toward the city from Chapultepec. Innumerable individual marksmen filled the air with flying lead, firing from loopholes cut in house walls and between sandbags set up on dwelling roofs. Somewhere, somehow, some Americans found a gap in the defense line and swarmed through and attacked the line in a flanking operation that worked. But at another place the advancing Americans were mown down by a storm of projectiles. Tony felt a stinging on his leg. It was a scratch that did not matter. The defense line broke into furiously fighting segments. Americans, also, broke up into small groups. One small party, without orders, managed to get a fieldpiece up to the top of a church tower. They hauled it along by sheer muscle. They opened very effective fire from there and afterward were greatly praised. A Lieutenant Grant was the leader of that party. And then General Clarke's men were suddenly and mysteriously possessed of pickaxes. They ceased to try to advance along streets that cannon and musket fire could sweep clean. They hacked holes in house walls and progressed slowly and bloodily toward the center of the city. In one of those houses men fighting like berserk Vikings came upon members of their own regiment who had deserted not many days before. They recognized the deserters. This house had windows fronting on a considerable small precipice. The discovered deserters went out the windows, screaming as they fell.

Street-fighting is never pretty. The capture of a resisting town is rarely quick. The battle which had begun hardly past daybreak went on through noon, and afternoon, and past sunset, and on into the night. At the beginning there were nearly seven thousand American troops in the assault on Mexico City. By dawn of the next day there would be nearer six thousand. They were what was left of twelve thousand men who'd left Vera Cruz. They'd left eighteen hundred invalids behind in Puebla, guarded by only five hundred well men as a garrison. They'd lost twenty-seven hundred killed or wounded. They were weary and they were feverish and they were raging because they'd seen their dead. They fought like madmen. Like the mobs of an insurrection. They fought like maniacs throughout the day and the quick sunset and on and on even into the night.

At one in the morning the city council of Mexico City asked for terms of surrender. President and Generalisimo Santa Anna had retreated from the city toward Guadalupe, failing to notify all the city's defenders of their abandonment but pausing to throw open all the city's prisons and to release some two thousand convicted murderers and robbers to make what they could of the opportunity given them. It is possible that he considered that men previously murderers would become patriots when released, and that they would function as guerrillas. It is certain that he was only partly right.

Tony was among that inevitable accumulation of men separated from their proper units when the city was occupied after its official surrender. General Worth marched his division into the Grand Plaza. The fighting should have been over. Worth's division marched into the great plaza and halted, while Worth was to signalize the end of all combat.

There was the explosion of a musket. Tony himself saw the puff of white, on a rooftop, that sent Colonel Garland out of his saddle, badly wounded, almost under the heels of his own horse beside General Worth's. There was a roar and a rush, and men battered down doors to get at that sniper and others. There were other single shots, both near and far away.

The overall situation was never anything but confused from then on. On one level there were the normal, appropriate ceremonies attending the surrender of a nation's capital and the probably victorious conclusion of a war. General Scott, the American Commander-in-Chief, rode splendidly into the Grand Plaza wearing all the gold braid and feathers and medals even a man of his inches and girth could find room for. He was accompanied by his staff in less resplendent full-dress uniform. A band played. Worth's division presented arms. Scott lifted his plumed chapeau. Men cheered.

But there were again shots in the distance. They continued. And below the level of grand ceremony an altogether other kind of activity spread. The released jailbirds may have begun their looting and killing professionally, but the sight of American soldiers suggested sport of a kind to appeal to them.

In any case there was city-wide sniping of the occupying troops, on a scale which sometimes rose to organized if illegal resistance. Cannon had to be used against some buildings from which musketry fire came in storms. There were armed patrols grimly breaking into houses from which shots had come. There were unquestionably mistakes, and innocent civilians died. But certainly there were murders by any standard, as when American soldiers, in crowds of Mexicans in apparently pacified areas, were shot in the back and the crowd fled, though only one person in it had any connection with the killing.

Tony Newman hunted for Sam. Then, uniformed as an officer, he was commandeered by a red-faced colonel to form a patrol with troopers lost from their own units. It was appropriate and might be useful work. Tony undertook it with distaste but with resolution. But all the while he was raging about another matter. Sam hadn't reported back to the Time Tunnel. In a five-minute respite from being shot at the day before. Tony had asked MacGregor, when he could tell the Tunnel was turned on. MacGregor spoke stiffly and snapped off the power without warning. She was obviously defying someone of the occupying commission. Tony could guess that it had been intended to bring him forcibly back to the Time Tunnel when he did report. But MacGregor made it impossible by turning the Tunnel off.

During this long day he led his patrol through the streets of Mexico City. Not less than eight times they were fired on, and not less than eight times they broke into the houses from which the shots had come and found the men who'd fired them. They were civilians, with definite indications that they were of the criminals released by Santa Anna. Tony did not lose a man. He used tactics most men nowadays understand, against enemies who hadn't heard of any improvements in the art of street-fighting since the days of ancient Rome. The men assigned to him admired Tony inordinately.

There were still some stray, crackling shots in the night when, well after sundown, he led them wearily to the steps of the cathedral. He moved aside from them and went around a corner. He turned on the time-harness he wore.

Kirk's voice answered immediately he called.

"Sam reported in," said Kirk. *"He's heading for the cathedral now. Doug and I've gotten into the Tunnel chamber and locked ourselves in. We can't be gotten out immediately by the new brass. MacGregor's with us, too.*

We've got the traveller Out Yonder with you. It's racketing about overhead somewhere, waiting for you or Sam to call it down. We thought you'd been killed, Tony. We were about to try something really desperate. But we'll do most good here, if you and Sam can do your part."

There was a challenge where Tony'd left his followers. A shot followed almost immediately. Then a savage burst of gunfire.

This, of course, did not promise well for the recovery of a Wotan missile with some tons of ultra-high-explosive fuel in its tanks, just over the wall of the garden behind the cathedral's dark bulk.

10

THERE WAS no moon on the night after the capture of Mexico City. There were only uncountable very bright stars. There were no police. There was only an uneasy stillness, broken now and again by single musket shots which were sometimes followed after more or less interval by spatterings of others. The streets were empty. In theory there should be nobody about anywhere, except patrols of soldiers trying to hold down looting in a town where there was no government except the remnant of an invading army.

Tony rushed to his improvised detachment. They were conducting a competent firefight from shelter here and there about the cathedral's walls. They had learned a great deal under Tony's leadership. None had thought to ask to what regiment or division he belonged. He knew something of his work. He showed them. They were much better equipped for this work than most of the American Army.

Already the shots were diminishing. Running figures fled away. They'd been making for the huge closed doors of the cathedral with a figure in an American officer's uniform at their head. Tony had impressed on his followers that everybody, without exception, was to be challenged. They challenged this figure. The man in officer's uniform answered. He was more than half drunk. His reply to the challenge was given in a thick brogue which could not possibly be spoken, in 1847, by a commissioned officer. Not even a political one. He ordered his challenger out to where he could be seen. His speech was thick and his words profane. And it was the wrong kind of profanity. It was not the profanity with which mules were driven. He was unmasked on the instant. He was a survivor of the San Patricio unit of deserters. He had become leader of a party of the criminals Santa Anna had released. Wearing an American officer's uniform, he was leading them to the looting of the richly decorated building. Reeling and shouting, with a small mob behind him, but no other uniforms than his own, he bellowed an answer to the challenge.

One of his followers fired at the challenger. Instantly, from places of shelter about the cathedral, gunflashes replied. The drunken leader collapsed. There was a sudden spate of musket shots. Tony's men were experienced in such matters now. They fired coolly and with precision. The mob broke up and fled, leaving some of their number behind them.

When Tony arrived, it was almost over. Before he could order any

action, it was completely finished. He said curtly, “Good work! Maybe they’ll come back. There’s treasure in the cathedral to draw them. Pick good shelter and see if they do come back. I’ll be with you in a minute.”

He returned to the dark behind the enormous building. And now he heard Sam Creighton, murmuring in the total obscurity between the cathedral and the convent garden wall. Sam had evidently just arrived and turned on his time-harness again. He was saying in a low tone, “I don’t see Tony, but there’s some fighting close by. If it spreads to here, it may be what I have to expect.”

“Idiot!” snapped Tony. He flipped the switch of his own time-harness. “Kirk! Work with us for half an hour and we’ll be all right! Bring down the traveller!” He turned to Sam. He said enragedly, “Get up to the top of the wall! I’ll boost you. Then lend me the end of your belt and we’ll both be there and the traveller’s coming down now!”

Sam said with some pathos, “I’ve only got to get killed now. Maybe I can help you before it happens.”

This space was filled with darkness as of the pit, but with Tony’s help, Sam got to the top of the wall. He hauled Tony up after him. They sat there side by side when there was a thrashing of branches and MacGregor’s distressed voice came to the receiver behind Tony’s ear, *“Tony! Sam! I just took over the traveller and I hit something! One of the trees, I think. Talk the traveller down!”*

Tony jumped. He was in the garden. He found the pond by the silhouette of its screen of trees against the stars. He even saw the angular, absurd outline of the traveller among the branches. Staring up, he directed MacGregor. She got it clear. Seconds later it landed with a slight bump beside the pond.

What followed was singularly matter-of-fact. It hadn’t been planned to be an adventure but merely a tricky job of engineering, operating through devices planned to operate as a temporal transportation system which could—and should—transport bombs or missiles by a detour in time to any desired spot on Earth. They required it now to act also as a crane for the handling of heavy objects a hundred-odd years and well over a thousand miles away from itself.

The setting of the operation was not adventurous, either. This was the garden of the convent of Santa Ysidora, which well over a century hence would be torn down to be moved to a more peaceful environment than this place then would be. Now it was utterly quiet. The inhabitants of the convent would have closed and barred all doors, and very probably were sincerely praying for the evil men and good ones alike who had died this day and more of whom would die before daybreak. Outside the walls there were separate, very

occasional shots, or flurries of shooting. Now and again there was an outcry of some sort.

But Tony and Sam paid no attention. Sam matter-of-factly unloaded a rope from the traveller. Tony seized its end and waded carefully out into the pond. The Wotan had been under water a matter of weeks only, in this time-period. It had had no chance to sink into the mud or to be covered over. Tony was neck-deep, though, when he felt the metal hull under his feet. He groped his way, determining the angle at which it lay. He found himself moving toward its stern. He reversed his movement and presently came to the rounded forward end. It would have a towing ring at its exact tip.

He dived. He got the rope through that ring.

He went back to the shore, his teeth chattering. Sam was then unloading the metal-mesh time-harness which would enable the Tunnel to move anything in the harness in any combination of temporal and spatial directions—provided the cargo was not wet.

Tony hooked the rope to the similar ring under the traveller. All this was perfectly commonplace. Every detail had been worked out beforehand and every move tested. The can of silicone oil-compound came out of the traveller. There'd been a tarpaulin over the whole cargo, back in the Tunnel chamber, but it had been removed before the traveller was sent Out Yonder. It would be one less item to be brought back.

"We'll try hauling it out now," said Tony curtly. "Take it easy, Ann!"

There was a stirring. The traveller rose from the ground and moved in an arc until it was over almost the exact center of the pond. The rope beneath it tightened. The traveller swung back and forth, lifting. Its movement made the lifting more effective in breaking what suction the mud might have developed. Tony watched. He found himself shivering. The pond had been icy cold. MacGregor said anxiously, *"Let me know when the Wotan stirs!"*

There was a musket shot a long way off. Two others, nearer. Silence again. Night birds cried dolefully. Insects stridulated in insane cheerfulness. Tony's teeth chattered from the cold.

The rope tightened until it was as hard as a bar of iron. Tony watched, with low-toned comments via his microphone, which happened to be waterproof. It occurred to him that a wetted harness, such as that on his body, would not link to the Tunnel's force fields. He couldn't be carried back to the Tunnel in his present soaked condition.

The rope, stretched taut from the foolish-looking platform to which it was attached, made a humming sound. Something yielded.

Something gave.

"Watch it, Ann!" said Tony evenly.

She evidently cut down the vertical lift. The rope moved down a little, and up a little. Tony reported, very carefully, exactly what happened as MacGregor used more lift and less and more again.

Tony said, "Hold it!"

He waded out again. He poured silicone on top of the now-visible metal nose of the Wotan. MacGregor lifted it a little more. He swabbed on the stuff with its curious dry-greasy-liquid feel as the round, torpedo-shaped object came uncertainly out of the water. His teeth chattered uncontrollably. He threw on the stuff with the freakish surface-tension. Water seemed to pour down much more freely than was quite normal. He strained to turn the Wotan as it rose. It began to spin, very deliberately, kept vertical and slowly rising by most delicate operation of the far away controls in the Tunnel chamber.

More shots, beyond the utterly tranquil convent garden.

Tony waded ashore. The Wotan hung upright in the starshine, turning very slowly for so many turns in this direction and then so many in the other.

The silicone drying oil was no more than half exhausted. Tony wetted himself with it. He could feel his wetted garments seem to change temperature as oil got next to his skin and thrust icy water away.

Sam said in sudden apprenhension, "Tony! You're soaked! Your harness won't work!"

"I was in a car once that was soaked, too," said Tony. "I've just given my harness the same treatment." Then he nodded at the dangling Wotan. "If that works, I'm all right. If it doesn't, it's going to be bad!"

The Wotan dangled from the seemingly quite preposterous traveller. It wavered up, and wavered down, and tended to drift in this direction and that. MacGregor corrected such deviations as they were mentioned. There were five shots, close together, almost at the limit of hearing. Nearer there was the bellowing sound of a firearm which was not a military weapon.

"Pass the sandwiches, Sam," said Tony composedly. "We have to wait for the oil to spread so the last of the water will run off. Better oil the new harness, too."

Sam obeyed. He said feverishly, "There was shooting outside the front of the cathedral just now. That'll be the looters I'll be fighting and killed by, presently!"

"It's a patrol," said Tony evenly, "I was leading it. Special orders.

You might say it's guarding the cathedral against looters."

Sam said in a peculiar, indescribable tone, "Then I'll be fighting with them against looters when I'm killed …"

"Give me a sandwich!" commanded Tony. "I'm hungry!" When he'd bitten into one he said with his mouth full, "I've got that all planned out."

"What?"

"Your being officially killed," said Tony, with no sympathy whatever. "It looks like the Wotan's dripping is pretty well finished. We can get the new harness on it. Ann? Swing the Wotan closer and let it down gently. We'll get it wrapped up for delivery."

He watched, sandwich in hand, as the sleek and shining vehicle for destruction swung from over the irrigation pond to a position above solid ground. Sam rather officiously took over the direction of the lowering, from here. Tony watched, biting his sandwich from time to time.

Somewhere, off in the city, a six-pounder fieldpiece let go. Most of the disorder was strictly commercial in motivation; freed criminals had a city before them in which there was no law. But there were buildings and even churches, first entered for loot but turned into savagely defended centers of musketry fire, when Americans attempted to correct such situations.

Behind the cathedral, in the convent garden, the Wotan's tail touched the ground. It remained upright. Sam struggled manfully with the new harness, most carefully folded and drenched with silicone. But it spread out. Sam caught its shimmery folds over the suspended top of the missile. Tony took a fresh bite, and tossed the balance of his sandwich into the pond. He helped to get the rest of the metal drapery around the deadly stainless-steel thing. It could leave only a hole where very much of a stone-built city now stood, if by any chance it detonated.

Sam said, "All right, Ann."

"No!" snapped Tony. "Lay the Wotan down, Ann! We want to get the rope off!"

Somewhere there were screams, very far away. Then a rattle of musket shots, and the night resumed its peaceful stillness.

The Wotan tilted and reclined, let down by the smaller traveller platform until it lay flat on the ground, swathed in the harness. The rope linking it to the traveller was barely taut. Tony cut it.

"Now you can take it away," he observed.

There was a sound like a gunshot immediately at hand, but it was not an explosion. Quite the contrary, it was the implosion of the

sudden vacuum produced by the instant disappearance of the missile. The sound wasn't masked, here, by the thunder of the Time Tunnel's operation.

"Where's the silicone can?" demanded Tony curtly. "Into the traveller! The rest of the sandwiches. Into the traveller! The rope. Is everything clear? We're not leaving anything here at all? All right, Ann! Take the traveller away, too!"

There was a whooshing sound. The traveller was gone. Sam spoke uncertainly, in a peculiar mixture of uneasiness and disappointment, "We could have ridden back in the traveller!"

"Ann will be tossing it up like a drone-buzzard, to catch it again after she's picked us up and taken us back to the Tunnel chamber. We'll travel back in our individual time-harnesses, after we've arranged about your being killed. Come along!"

Sam followed, with something less than eagerness. They got to the top of the convent wall again. Tony jumped down into the blackness between it and the cathedral. Sam followed.

They came out into the starlight at the front of the great building. A crisp voice challenged.

"Good work!" said Tony. "I'm ordered"—he jerked his thumb at Sam—"to report to the provost marshal. You men stay here till daybreak. There may be another try at looting this church. If there is, stop it."

Voices murmured acceptance of the command.

"One thing I want to find out," observed Tony. "That man in the American officer's uniform—"

He went out into the open plaza where a man in American regimentals had been shot down because, being drunk, he didn't talk like an American or use American terms of abuse. Tony bent down over him. He said curtly, "Your papers, Sam."

Sam Creighton, bemused, fumbled in his pocket and produced the documents that identified him as Lieutenant Austin Creighton of the United States Army. Tony stuffed those papers into the pocket of the man who'd been leading looters to the cathedral. He took away other papers the dead man had carried. He brushed off his hands.

"Maybe," he said, "they'll simply bury him as you and that will be the end of it. If not, they'll figure he was using your uniform after you'd been killed somewhere else, and would have used your name if necessary. In any case your great-great-grandfather is now officially dead after being officially alive for some time after he wasn't. All right?"

Sam said dazedly, "I—never thought of anything like this …"

Tony led the way behind the cathedral. He said to his lapel, "Ann?"

"Y-yes, Tony!"

"All set," said Tony, in the deep darkness. "Take us away. Sam goes first. But I'll be waiting!"

There was a pause. Then a tiny, indescribable sound. Sam Creighton wasn't there any more. He'd be back in the Tunnel chamber, clambering across its twisted metal bars to let the Tunnel be turned on again.

Silence. A feeling of infinite peacefulness. The Wotan was no longer to be worried about. There were other troubles, to be sure, but—

The stillness was broken by two shots perhaps half a mile away in the night. Then Ann's voice said relievedly, *"All right, Tony! I'm transporting you now. Five, four, three—"*

Tony winced by anticipation. But it didn't help in the least. The sensation of being moved at high acceleration in a direction involving time and space together—it was extremely unpleasant.

Extremely. But it was only a preface to what he anticipated back at the Tunnel platform.

It ended, and he was in the Tunnel chamber, where the weirdly twisted bars of the Tunnel were just ceasing to give off a bluish light. The last roll of thunder was dying away. Tony drew a deep breath and picked his way over the peculiar footing until he could step down to the chamber floor.

MacGregor was seated at the control desk. She was pale. Doug paced up and down. Sam Creighton looked as if he'd had a shock, though he'd been returned to this place only minutes before Tony. Of Kirk, of Tech Sergeant Christopher, and of General Osborne, there was no sign.

Tony spoke into the silence that greeted him.

"I imagine," he said, "that I'm in some sort of authoritative doghouse, and by your expressions you seem to be in it too. But at least the Wotan is out of Mexico City! It got to MacMurdo, didn't it?"

"I sent it on a detour course," said MacGregor. "The instrument dials say it arrived. We've had no message. It takes time for a message to get out to a relay satellite and be sent back down and then be forwarded to us. If Kirk had put a microphone in the new harness, we could have heard from it direct."

Her tone was unenthusiastic. Tired.

Tony looked from one to the other of them. Sam said puzzledly, "This is the way they feel, apparently. I don't know why. We did get the Wotan away! I even got a bonus! I didn't have to get myself killed in the place of my great-great-grandfather! I don't know why they're

so gloomy!"

MacGregor said in the same zestless voice, "I'm going to bring in the traveller, now. I'm getting the feel of toss-ups. Move away from the Tunnel, Tony."

Thunder, and momentarily dimmed lights, and the lambent blue flames, and the steady, even humming of power in giant quantity flowing into the Tunnel and there accomplishing something not easily to be believed. It wasn't easily to be imagined, either. MacGregor had lifted the preposterous time-traveller away from the convent garden. Tony and Sam had waited for temporal transportation away from the same spot. MacGregor had sent the traveller skyward with an acceleration that would if continued could have sent it out into space with escape velocity. But that wasn't the purpose now. The Tunnel simply tossed the traveller so swiftly and so high that it reached an altitude where air resistance was practically zero. There it slowed, and slowed, and slowed, and presently began to fall back to Earth. It would take long minutes to drop all the way down from the heights it had attained. It was oddly like the trick of a theatrical juggler, who will send one spinning object up to the ceiling of a theater, and do various irrelevant things before it falls back into his negligently extended hand.

MacGregor turned controls. She'd tossed the traveller high. She'd brought back Sam and Tony. Now she searched for the thing she'd placed in the heights to give her time for what she'd done. The traveller was now only a small, awkward body in emptiness, with Earth visible below it only by star-shine on cloud masses. At its highest-reach point, it was not far below the lowest orbits of artificial satellites. But it should fall back into the questing force fields of the Tunnel, and they should find its harness and lock onto it and MacGregor would bring it down into heavy air and then into the Time Tunnel and its rock-hewn chamber.

She watched dials. Somewhere the traveller plunged downward, many hundreds of miles from the control desk and remote in other respects. For example, it was in the year 1847. There were no artificial satellites. Shooting stars were considered to be fast-moving will-o'-the wisps. There was no radar anywhere to detect missiles on their way—there were no missiles—or the traveller in its fall. There were no radio monitors picking up radio signals for examination and in the case of cipher messages, deciphering. There were no radio signals at all. All over the world ninety-five per cent of the power in use—the horsepower—was produced by horses. The traveller was in a strange and remote world indeed, a century and a quarter away.

MacGregor nodded, her eyes on the dials. She'd picked up the

plunging platform. She moved other controls. A pause.

Then the chamber was filled with the mighty roar of thunder. The Tunnel's cage-bars ceased to glow. And the traveller, with its load of prosaic objects, was back in the Tunnel. There was silence.

MacGregor said in a fine combination of sadness and resentment, "They haven't said so, but they're going to shut down the Tunnel, Tony! It'll all be waste! All that Doug and the rest of you have put into it! They'll pretend that it'll just be kept on standby, like a laid-up warship. But they'll never use it again! They're afraid of it! And all this work and all this struggle and—and the wonderful result—for all of it to go to waste—it's terrible!"

Tony shrugged his shoulders. He was very tired, now. In the thirty-odd hours since he'd gone Out Yonder, he'd had no sleep and much weariness and he'd been tense to exhaustion. He'd seen and heard and taken part in twelve hours of actual combat and no inconsiderable time patrolling the streets of captured Mexico City. And he'd gotten the Wotan out of the pond.

He saw Doug pacing the floor, the picture of dejection because the Tunnel had been demonstrated to the Army and it would be taken away from him and the rest of its builders, and nothing would happen at all. And so much could! Properly handled and kept utterly secret, it could make wars impossible and tyranny foolish and it could make the merchandising of hatred absurd. It could do so much!

Tony said regretfully, "It's tough!"

He went away to his quarters, to get rid of the uncomfortable uniform he would never put on again, and to get the paradoxical dry-greasy-liquid feel of silicone off his skin. Somehow he did not feel as depressed as Doug very obviously did. He'd done something that satisfied him. He'd functioned as a fighting man, which is a built-in instinct of every normal male, but an instinct not often gratified. Any man who has been in combat and felt himself competent will never quite lack self-respect thereafter. Tony didn't think of his feeling in those terms, but in a curious fashion he really felt better than he'd ever felt before.

He slept.

He was at breakfast next morning, all alone, when Tech Sergeant Christopher found him. He looked at Tony with admiring respect.

"Word came that the Wotan arrived at MacMurdo on schedule, sir," he said. "It was tricky for a time though, wasn't it?"

Tony speared a forkful of scrambled eggs and put it in his mouth.

"I suppose," he said after a moment, "you mean being mixed up in the capture of the city? I didn't notice whether it was tricky or not. I

was mad clear through. I was too angry, both with Sam and with the people who were shooting at me when I had no desire to shoot back! I felt very much put-upon."

The tech sergeant nodded. He said wistfully, "I envy you."

Tony gathered more scrambled egg on his fork.

"Why? I'm in the great-granddaddy of all doghouses," he observed. "So is Doug and Kirk and Sam. MacGregor will probably get off, because she's a woman. But we can be charged with everything from embezzlement of the funds used to build the Tunnel, to something close to high treason. I don't know exactly how a lawyer would put it, but we are in a jam! And the worst of it is that the Tunnel will at least be closed up and kept so secret that nobody will know what it's all about. All our work will go for nothing."

But he continued to eat his breakfast with a good appetite. The tech sergeant looked uncomfortable.

"For detour-bombing—no, I don't think the Tunnel will ever be used for that unless the emergency is very great. Very great! But I've been questioned by the Board of Inquiry—the three officers sent here to take over."

"You're not in trouble, are you?" asked Tony. "After all, all you did was obey orders!"

"I had information I could give them, and that they wanted," said the sergeant. "Even more information than General Osborne could give. I'm—" He hesitated, and said, "I've had special training in very theoretic stuff." He did not mention that he was an M.A. and a Ph.D., Tony approved. "I think I even know how the Tunnel works. So I could help explain."

Tony lifted his eyebrows.

"You're getting around to telling me something. What is it?"

Tech Sergeant Christopher said awkwardly, "General Osborne has a reputation. The Board won't suspect him of actual treason. General Kirk was a very high-ranking officer of the Air Force before he retired. There's—it's not easy for the Board to think they'd commit any actual crime. So the Board members have been talking to me."

Tony looked at him sharply.

"Well?"

"You'd be surprised," said the scholarly sergeant. "You'd be surprised how much communication facilities are needed by the military. More than half the capacity of the last two relay satellites is reserved for military use. That's beside the other channels they need and use. The whole spectrum is pretty well taken up, counting commercial, military, television and radio, and so on. Things are

pretty crowded. So all three services are very much interested in detour communication."

Tony blinked. Then he said, "Detour communication, eh? Go on!"

"If a missile can be sent back in time," said Christopher, "and kept under control a hundred years or so ago, a radio transmitter might be sent back a hundred years to transmit to another receiver in the same time period. And there isn't any radio a hundred years ago. The air's clear. The whole radio spectrum is empty—and the Army and the Navy and the Air Force can move their transmitters back there. Nobody can listen in without going back a hundred years. There's safe, secret, and unlimited communication! All the services want that! They've been asking me questions about it."

"I'm sure," said Tony with amiable irony, "I'm sure you didn't bring up the subject in the first place!"

The Tech Sergeant did not answer directly. Instead, he said, "Of course there's Intelligence, too. Buzzards aren't especially important, but microphones the size of dust grains are possible, and iconoscope tubes have already been miniatured away, away down. And they can be carried to anywhere it's desired in past time, and then brought up to the present. Like the Wotan."

Tony stopped eating for a moment. Then he went on. "Interesting!" he said. "Go on!"

"There's one other item," said the sergeant uncomfortably. "There's been a certain amount of disturbance because new satellites keep appearing overhead. Sometimes they're explained as weather satellites, and sometimes they aren't explained at all. But there's been uneasiness. They could, you know—they *could* be missiles like the Wotan, parked in orbits until needed for—mm—destruction. The services are really rather wrought up about them. But—what's to be done?"

"Tell me what's to be done," said Tony.

"General Osborne pointed it out to the Board," said Christopher. "The Wotan was handled from here. You could also handle something else, maybe a solid metal missile with no works except a time-harness to handle it by."

Tony again stopped eating, to think. After a moment he said reflectively, "Yes … send an object Out Yonder. Back in time. Get it aloft. It can still be handled in this time-period when it's brought back, well aloft, into the present. And with the power the Tunnel has, it can be given terrific acceleration. Hmmm. We could send up a solid cannonball in a harness, line up with a suspected missile, and batter it to bits with hammerblows of a hundred tons impact! Yes. That's a very nice idea! No complaints. No threats. No trouble. Just—

somebody sends up missiles that may be undesirable, and parks them in orbit, so we put a Civil War surplus cannonball in a time-harness and take it up to batter the doubtful satellite to bits. There'd be no report going back. Probably no explosion. They'd just stop being there in orbit. The moral effect should be excellent. Nobody'd think it wise to start trouble with such things happening! I like that!"

"General Osborne outlined it," said the tech sergeant. "I thought I'd tell you about it. The Board of Inquiry wants to talk to you."

Tony put down his knife and fork and carefully creamed his coffee.

"I've enjoyed this conversation," he said. "Now I'll know what to say. I might even be able to ask a favor. Would you like a promotion?"

"Oh, no!" said Christopher, in alarm. "When I get out of the Army —"

"When you do," said Tony, "let's foregather. I think we may work out some interesting things to do. Right?"

The tech sergeant stood up, flushing a little.

"Thanks. I'd—I'll like that!"

"Since from what you tell me I'm apparently not going to jail," said Tony cheerfully, "plans can be made." He stood up in his turn. "Now where do I go to talk to the Board of Inquiry, which I once thought was the second-worst thing that could happen to the Time Tunnel?"

The members of the Board were waiting when he went into Doug's office. He had a very pleasant conversation. It worked out as the sergeant had said. The Board wanted to see a demonstration which specifically proved that the Time Tunnel could send objects back in time and away in space, and return them to their proper places and times. If that could be proved—why … Tony suggested a demonstration that might be satisfactory. They agreed that it should.

So presently the Tunnel chamber was visited by three new members of the very select group which could enter it. MacGregor presided over the control desk with conscious authority. General Osborne chatted comfortably with the members of the Board of Inquiry. Doug watched tensely, by the wall. Kirk was present, in great dignity. Sam Creighton. Tony. And the tech sergeant.

Tony put a drone-buzzard in the Tunnel's dispatching point. He went back to the floor. MacGregor counted down. Thunder rolled and lights dimmed, and the Tunnel's curving busbars glowed with a flickering bluish light. There was a distinctly audible humming sound, which was power in enormous quantity rushing to do its work.

The central television screen showed an image. It was of a landscape, with a broad river flowing toward the camera in a buzzard-drone's breast. On one side the river shore was an imposing rocky

formation that looked like a magnified palisade of logs. The other side was tree covered. A peninsula appeared, formed by a second river flowing to join the first. There was a city near its tip. It was not a large city. The houses were small and made of wood, and most of them were reasonably well separated. There was little crowding save near the wharfs which lined the peninsula's narrowest point. There were many ships moored to these wharfs, and others lay at anchor waiting for room. One ship, its sails all furled, was being towed into the wharf by the oars of its own sailors, pulling in two of its boats. There was a full-rigged ship coming in through the narrower part of the harbor.

"Let's see the wharfs close by," said General Osborne, with zestful anticipation. "Give us a good close look at the shipping!"

The camera-bearing drone slanted downward. Presently it floated, delicately balanced, above a wharfside street which was all deep mud. Hogs trotted importantly here and there. They were the garbage-disposal service for the city. The television screen showed the masts and decks of the ships and their cargo holds. Great days moved effortfully nearby, drawn by massive draft horses.

General Osborne said sharply, "Ahead there! Look ahead! Where that man's struggling with a rope! Let's see that! Go down closer!"

The image slanted down still more. It had been obvious from the first sight of the Palisades that this was New York harbor of long, long ago. There were sailors in varnished hats and flapping trousers. There were top-hatted business men. Horses, humans, hogs and occasional dogs, all made a picture of activity.

"There!" said General Osborne urgently. "See? Those other men are moving to help him!"

Other men did cluster about a man who'd braced himself fiercely against something overboard, hauling at the rope he held. The other men grabbed handholds. The rope tightened, fighting, but it came inshore. Something came out of the water and onto solid ground. It struggled furiously. It was wet and streamlined and horrendous white teeth showed across the mark of its underside. It snapped and struggled. It was a ten feet long.

"That's proof absolute!" said General Osborne, complacently. "Until nearly 1850 there were men making their living in New York harbor by fishing for sharks from the wharfs! That's proof positive that the Time Tunnel does all that's claimed for it!"

He looked triumphantly from one member of the Board of Inquiry to another. They nodded, fascinatedly watching the life of a city a century and a half ago, as seen by a drone-buzzard floating overhead. There was no question of their reaction. Even Doug ceased to worry.

The tech sergeant said in a low tone to Tony, “Mr. Newman, can I ask you something? I’m bothered. I can’t figure it out. In theory I know it shouldn’t be possible, but in practise—I’m not sure! Could—could somebody go back in time and change what the past had been, and therefore change the present?”

Tony shrugged his shoulders.

“You know the theory. So do I. But whether the past can be changed or not—how on Earth could I know? I haven’t the least idea!”